Final Report for the Marshall-Plan Scholarship 2010

Submitted by

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For the research project

"The Use of Carbonate 'Clumped Isotope' Thermometry to Quantify Temperatures of Burial and Diagenesis from 0-200°C"

Basalt pillar in front of the Geology Department, University of Washington

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Table of contents

1 Introduction 4
2 General Introduction on Carbonate thermometry 5
3 The Proof of Concept study 7
3.1 Introduction 7
3.2 Principle sample strategy 8
3.3 Geological overview 11
3.4 Study area 14
3.5 Navajo Sandstone 15
3.6 Entrada Sandstone 16
3.6.1 Dewey Bridge Member 16
3.6.2 Slick Rock Member 16
3.6.3 Moab Tongue 16
3.7 Sample Location 1: Moab fault - Courthouse intersection 17
3.7.1 General overview 17
3.7.2 Samples 19
3.8 Sample Location 2: Big Hole and Blueberry faults – Northwest of Green River 23
3.9 Sample Location 3: Rainbow Rock 24
3.10 Sample Location 4: West of the entrance to Arches National Park 25
3.11 Core sample 27
3.11.1 Well Name: Cane Creek No.1 27
3.11.2 Well Name: Skyline No.1 29
3.11.3 Well Name: Blaze A No.1 30
3.11.4 Well Name: Floy Salt Wash No.1 31
3.12 Summary 32
3.13 References 34
4. Isotopic Modelling 36
4.1 Geologic setting and sample characterization 36
4.2 Isotopic analysis 39
4.3 Thermal history of Long Point samples 40
4.4 Relating calcite temperatures to thermal history 42

4.5 Fluid-rock interactions 45
4.6 Preferred history of carbonate growth and replacement..... 48
4.7 References..... 49
5 Acknowledgments 53
6 Appendix 53

1 Introduction

As a fellow of the Marshal-plan scholarship, I had the honour to work and study at the department of Earth and Space Sciences at the University of Washington, Seattle.
For my research, I focused on the use of carbonate clumped-isotope thermometry. This amazing new tool allows us to measure the formation temperature of calcite with fidelity of +/- 1-2℃ within a range 0-50℃. The great advan tage of this technique is that it works independently, in terms of isotopic composition of the fluids from which the calcite participated, compared to other palaeo-thermometers. However, this tool was recently developed and therefore the application and calibration, up to 200℃, is still a matter of ongoing research.
During my stay in Seattle I worked on two projects, both related to clumped-isotope thermometry.
The first project is the Proof-of-Concept study for the calibration of the clumped-isotope thermometer up to 200℃. At the moment, the thermom eter is calibrated up to 50℃. However, many diagenetic and burial processes take place within the range of 50℃ to 200℃, like oil and gas generation and most of the hydrothermal-systems. The thermometer cannot be applied on these processes yet and therefore has to be extended. For that purpose, the thermometer has been tested on artificial calcites, which were precipitated under laboratory conditions and known formation temperatures. In addition, it is necessary to apply the thermometer on naturally formed calcites to proof that this tool works in natural systems. In order to do so it is important that the precipitation temperature of the natural samples are already known. The Paradox Basin in SE Utah is a well investigated basin and was chosen as study area for this purpose by Prof. Huntington. My assignment was the identification of proper samples and the field work to get them.
The second project is the application of the thermometer on calcites in a late Paleocene to early Eocene fossiliferous limestone from the Music Mountain formation, near to the Grand Canyon, Arizona. The main task was to solve the question when the calcite cements were participated and the fossiliferous gastropod-shells recrystallized, respectively. In general, there exist two possible times for the calcite formation, either on the heating path or during the cooling process. Although clumped-isotopes

thermometry provides us with the formation temperature, it does not give us the timing. For that reason, I tried to solve that question using an isotopic model in combination with the temperature measurements of the calcites to determine the timing of formation.

2 General Introduction on Carbonate thermometry

Conventional carbonate thermometry is based on the temperature dependence of equilibrium O-isotope fractionation between carbonate minerals and the waters from which they precipitate (EPSTEIN 1953; MCCREA 1950; UREY 1947). Because this thermometer is based on heterogeneous equilibrium between carbonate and water, the $\delta^{18}O$ of carbonate is dependent on both temperature and the isotopic composition of water (or, potentially, some other phase with which the carbonate might have undergone isotopic exchange). E.g., $\delta^{18}O_{calcite} \approx \delta^{18}O_{water} + 18.03(10^3/T) + 32.42$ (Kim and O'Neil 1997). Thus, conventional $\delta^{18}O$ thermometry can be applied only in environments for which independent constraints on water isotopic compositions are available (e.g., Adkins 2003; Kohn et al. 2004) or a strong correlation between $\delta^{18}O$ of water and temperature results in an empirical correlation of $\delta^{18}O$ of carbonate and temperature (Cerling 1984).

In contrast, carbonate clumped-isotope thermometry involves homogeneous equilibrium exchange among carbonate ion units within the solid carbonate phase alone. The technique is based on the temperature dependence of the overabundance, relative to a stochastic distribution, of carbonate ion groups in a carbonate mineral lattice that contain both a ^{13}C and an ^{18}O atom (i.e., $^{13}C^{18}O^{16}O_2$) (Eiler 2007; Ghosh et al. 2006a). A thermodynamic driving force (Fig. 1) that increases with decreasing temperature makes it more favorable for ^{13}C and ^{18}O to 'clump' into bonds with each other instead of being distributed randomly throughout the crystal lattice (Schauble et al. 2006; Wang et al. 2004). The ^{13}C-^{18}O-bond enrichment can be determined by measuring the $\delta^{18}O$,

$\delta^{13}C$, and abundance of mass-47 species in CO_2 produced by phosphoric acid digestion of carbonate using gas source isotope ratio mass spectrometry (Affek and Eiler 2006; Eiler 2007; Eiler and Schauble 2004). Mass-47 CO_2 species are mostly $^{13}C^{18}O^{16}O$, and their enrichment relative to a stochastic isotopic distribution, termed the Δ_{47} value, depends on carbonate growth temperature as $\Delta_{47}=59200/T^2-0.02$, where Δ_{47} is in ‰ and T is in degrees Kelvin (Ghosh et al. 2006a).

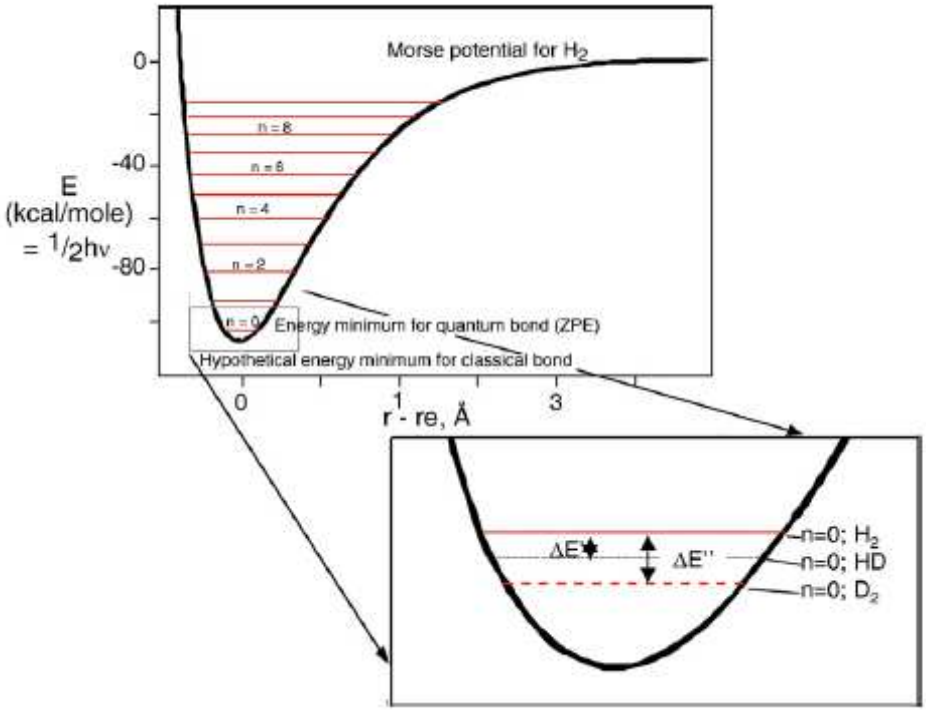


Fig. 1: Illustration of the energy content of a molecular hydrogen bond (Eiler, 2007)

Although most previous applied clumped-isotope thermometry studies have used temperature and $\delta^{18}O$ of water data for ancient Earth-surface deposits to constrain paleoclimate and landscape evolution (e.g., Affek et al. 2008; Ghosh et al. 2006b), a recent study of altered fossil shells and preliminary experiments suggest that the thermometer might also be applied to quantify temperatures of diagenesis. Came et al. (2007) applied the clumped-isotope thermometer to Silurian and Middle Pennsylvanian fossil brachiopod and mollusc shells that appeared to be altered by post-depositional

processes. The samples recorded temperatures up to 30ºC warmer than apparently unaltered samples from the same time period, but the authors did not speculate on whether 'reset' clumped-isotope temperature records could hold meaningful information regarding the post-depositional history of samples. Analysis of carbonates that have undergone high-temperature re-crystallization followed by slow cooling suggests that Δ_{47} signals cease to re-equilibrate over geological timescales below a 'blocking temperature' of ~200ºC (Ghosh et al. 2006a). Thus clumped-isotope thermometry should reflect episodes of diagenetic crystal growth and re-crystallization below ~200ºC with high fidelity. Additionally, there is strictly no dependence of Δ_{47} values on the $\delta^{18}O$ of water from which carbonate initially formed. Thus, unlike conventional carbonate-water isotopic thermometers (e.g., Urey 1947), clumped-isotope thermometry can be applied in settings for which $\delta^{18}O$ of diagenetic waters is unknown.

3 The Proof of Concept study

3.1 Introduction

The main objective of this work was to identify proper sample locations for the Proof-of-Concept Study of the 'clumped-isotope' paleothermometer. This thermometer is already calibrated for temperatures from 0°-50℃. At the mo ment Sarah Bergman, a graduate student at the department for Earth and Space Sciences, tries to extend the calibration from 50℃ up to 200℃. For this purpose, synthetic calcite is precipitated under defined and known temperatures and the Δ_{47} signal is measured. This procedure takes place under laboratory conditions and therefore cannot reflect the conditions of a natural system. For this reason, it is necessary to measure the Δ_{47} signal from natural formed calcites at different temperatures. However, it is a challenge to find and identify calcites or calcite cements, where the temperature of their formation or precipitation, respectively, is already known. The Paradox Basin in SE Utah is a well investigated basin and was chosen as study area for this purpose by Prof. Huntington. The great

advantage of this location is that there are several investigations about the thermal history and the diagensis evolution of the basin formations.

Basically, there are two possibilities for the search of samples, which have been formed under different temperatures in the Paradox Basin: (1) to study one distinct formation at different stages in the basin evolution or (2) to search for one event, which affected the entire basin fill. I decided to use the latter method, because in my opinion, it is very difficult to determine and find various cement generations in one sample or formation, without doing a lot of chemical and diagenesis analysis. The event for my method, which affected the entire sequence, is the beginning of the Laramide Orogeny in the late Cretaceous and early Tertiary. That means change from subsidence to uplift in the basin, and normal faulting related to salt tectonics. In addition, the main hydrocarbon expulsion phase took place during this time span.

3.2 Principle sample strategy

As described above I decided to focus on structures and calcites respectively, which

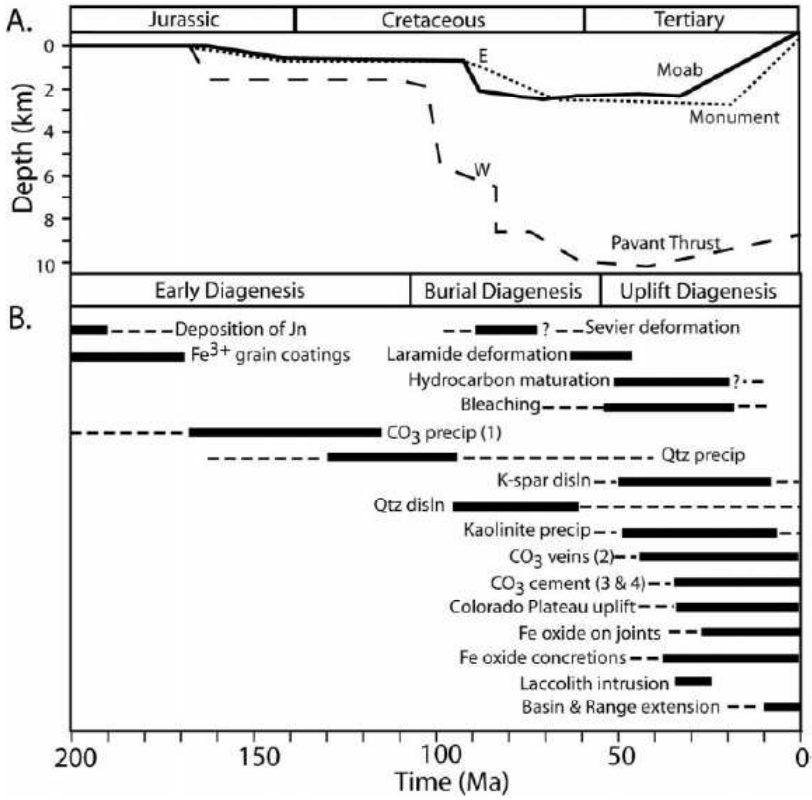


Fig. 2: Burial history and diagenesis distribution of the Navajo Sandstone (Chan et al. 2001)

can be related to one event. The advantage of this method is that the calcites can be related to a specific temperature when the time of formation is known. Fig. 2 shows the burial and diagentic history of the Navajo sandstone in the study area. For the Proof-of-Concept I focused on the calcite veins (calcite Nr. 2) and the calcite cements (calcite Nr. 3 and 4) which formed during the early stages of the uplift diagensis. The advantage of these samples is that they can be related to one specific temperature because they formed at the deepest part of burial. Additionally, both types of calcites precipitated under the influence of the petroleum expulsion and are therefore easier to recognize in the field (e.g. occurrence of bitumen in the veins).

The main occurrence of the calcite veins (Nr. 2) is related to the fault-related-diagensis in brittle faults. Brittle faults are complex zones of localized shear that are composed of smaller, fundamental, structures. The mechanical and hydrological properties of the fault zones are controlled by the type, arrangement and distribution of these fundamental structures. In general new structures develop at the tip of the fault in association with fault growth, as well as in rock in the vicinity to the fault or within the fault-core. In sandstone, faults are frequently composed of two classes of structures (Davatzes and Aydin, 2003): (1) deformation bands (Fig. 3A) and (2) joints, sheared joints, and breccia (Fig. 3B). Deformation bands are tabular zones of localized deformation that are typically characterized by crushed grains, porosity loss, and shear displacement referred to as cataclasis (Fig. 3A) (Aydin and Johnson, 1978; Underhill and Woodcock, 1987). Brittle joints are planar discontinuities characterized by opening normal to the fracture plane. Joints are susceptible to reactivation in shear, which promotes the formation of new joints, called splay fractures, near the tip and oblique to the sheared joint (Cruikshank et al., 1991). Repeated formation and subsequent shearing of joints fragment the rock and lead to the formation of breccia (Flodin, 2003; Myers and Aydin, 2004). The emerging view of faults as continuously evolving zones of shear localization that form by the addition of new structures resulting from specific deformation mechanisms differs from more traditional views that considered small scale structures as “secondary” to an established master fault or as relicts of fault nucleation (Ben-Zion and Sammis, 2003) regardless of the types of structures formed. Davatzes et al. (2003) and Davatzes and Aydin (2003) described faults that contained both classes of

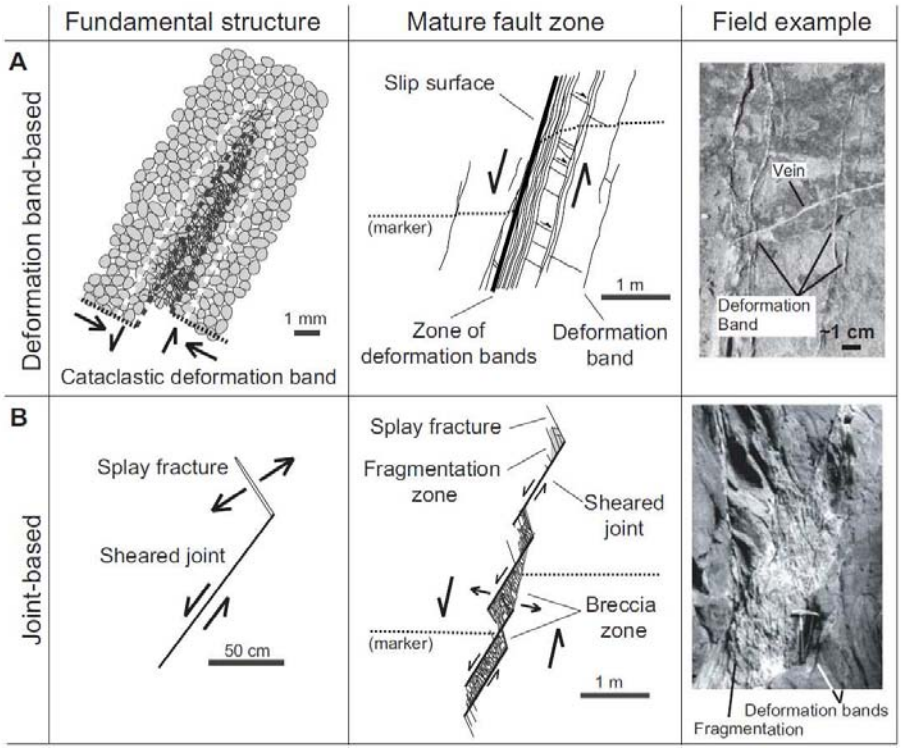


Fig. 3: Fundamental structures in a fault zone (Davatzas et. al. 2005)

structures, with joints and sheared joints consistently crosscutting- and therefore postdating deformation bands. In addition, they showed that joints and sheared joints only occurred along some fault segments, or parts of these segments, whereas all faults described in these studies contained deformation bands.

As described above, the hydrological properties of the faults are mainly controlled by the fault evolution. The precipitation of calcite takes place in the later stages of faulting (shear joints). These structures can be identified in the field and can therefore be used to estimate the timing of calcite-formation. In combination with the thermal models the formation-temperature can be identified.

The cements of the Navajo Sandstone is a good possibility, due to the porosity and permeability characteristics, to get cement-samples, which are not directly related to the faulting process, but formed at the same time.

The basic concept is to get outcrop samples from different locations with different thermal histories but which formed at the same time due to the same process. In addition I wanted to get core samples from each location. The main objective was to

test the hypothesis of a steady state hot fluid flow related to the uplift of the Paradox Basin and expulsion of basinal fluids and hydrocarbons.

3.3 Geological overview

The Paradox Basin is situated in southeastern Utah and southwestern Colorado (Fig. 4). It is an asymmetric basin that developed along the flank of the Uncompahgre uplift. The onset of the basin evolution started during mid-Pennsylvanian through early Permian time and is related to the Ancestral Rocky Mountain orogenic event. In previous times the Paradox Basin was considered to represent a typical pull-apart basin (e.g. STEVENSON & BARS, 1986). The newest investigations however showed, based on sediment facies distribution and geometric structure that the basin developed under the load of the Uncompahgre uplift. Therefore it has more in common with an intracontinental flexural basin, similar to the foreland basin of the Alps (BARBEAU, 2003). The Paradox Basin can generally be divided into three areas: the Paradox fold and fault belt in the north, the Blanding sub-basin in the south-southwest, and the Aneth platform in the southernmost part in Utah. The Paradox fold and fault belt was created during the Tertiary and Quaternary by a combination of (1) reactivation of basement normal faults, (2) halocinatic structures, dissolution, and collapse, and (3) regional uplift (DOELLING, 2000).

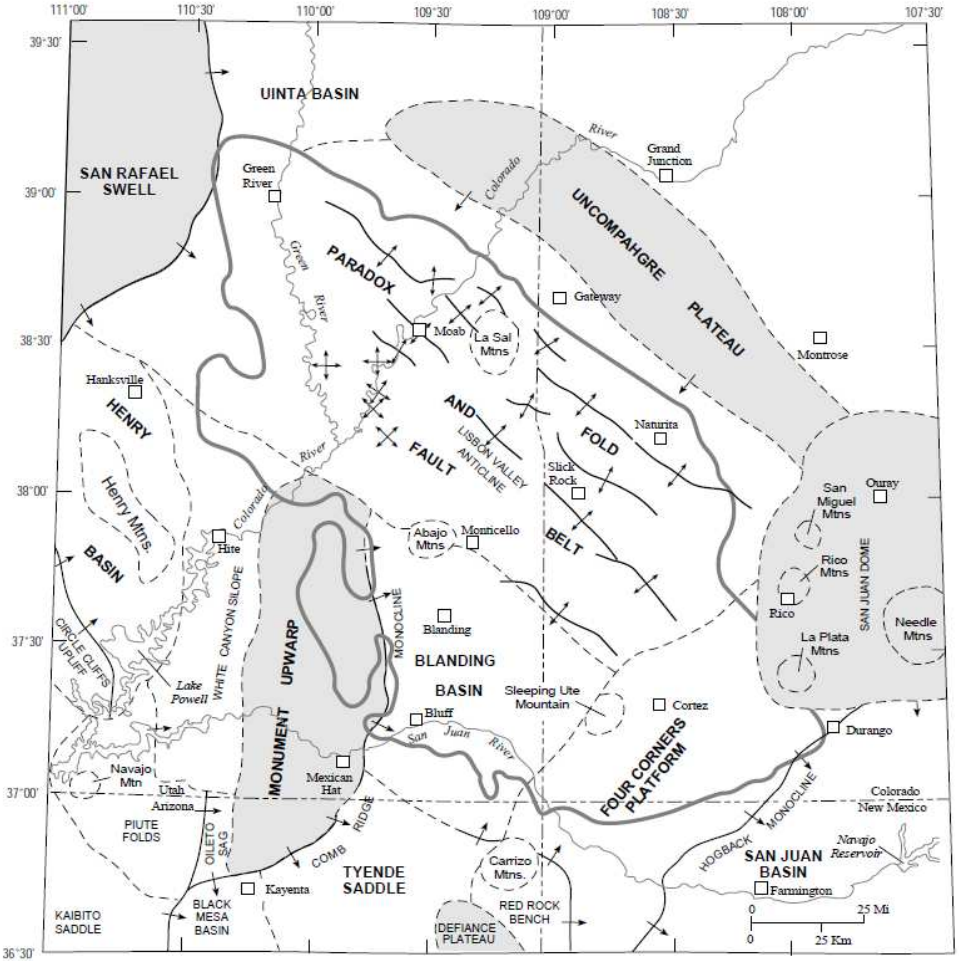


Fig. 4: Map of the Paradox Basin in southeastern Utah showing the main structural elements. (NUCCIO & CONDON, 1996)

The relatively undeformed Blanding sub-basin and Aneth platform developed on a shallow-marine shelf. The shape of the basin was modified by later tectonic events, primarily the Laramide orogeny in the late Cretaceous and early Tertiary. Today, the basin has been dissected in places by uplift of the Colorado Plateau and by down cutting of the Colorado River and its tributaries. The basin is primarily a Pennsylvanian feature that accumulated thick deposits of carbonate, halite, potash, sandstone, and arkose in response to tectonic downwarping and simultaneous uplift along its northeastern border (Fig. 5).

Sedimentary rocks of the Paradox Basin overlie an Early Proterozoic basement of metamorphic gneiss and schist that is locally intruded by granite. Cambrian through Jurassic strata unconformably overlie the basement rocks in much of the basin. Remnants of Cretaceous rocks are also present, especially in the southeastern part of

the basin, but, except for the igneous intrusive centers, Tertiary rocks have been completely eroded away.

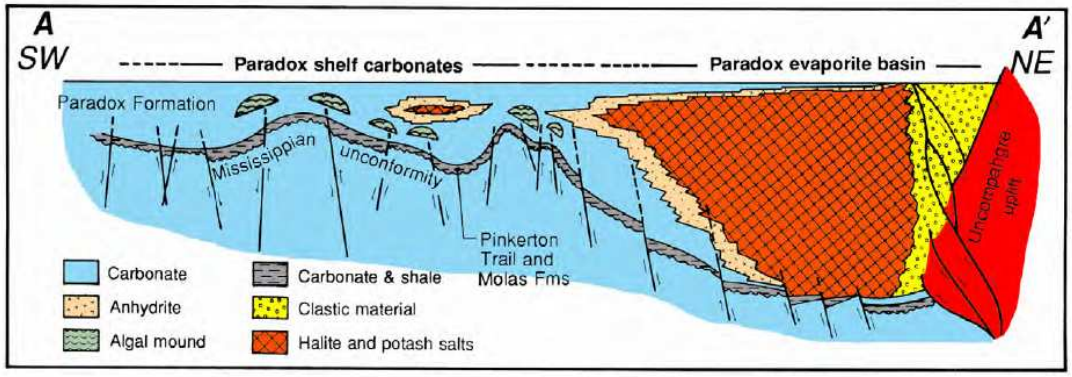


Fig. 5: General cross section through the Paradox-Basin

The most obvious structural features in the basin are the spectacular anticlines that extend for miles in the northwesterly trending fold and fault belt. These anticlines developed due to the intensive salt tectonic in the basin (Fig 6).

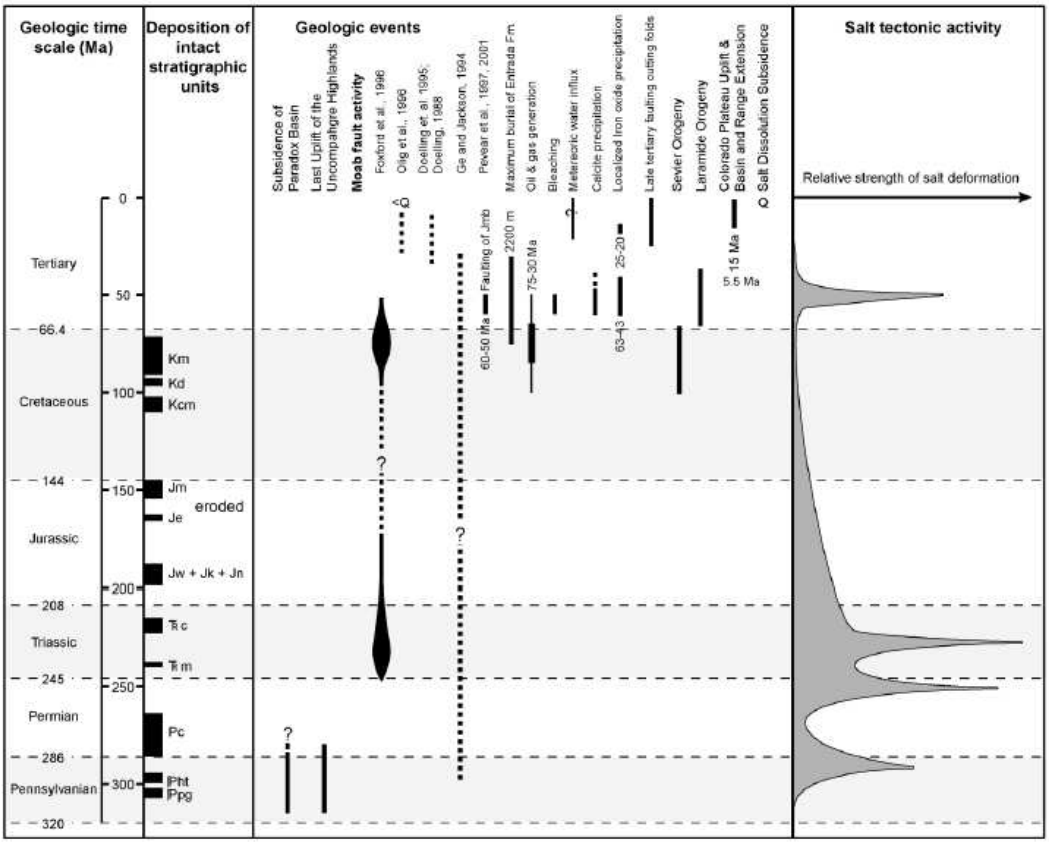


Fig. 6: Geologic events in the study area (Davatzas & Aydin, 2003)

3.4 Study area

The study area is located in the fold and fault belt of the northwestern Paradox Basin (Fig 7). The evaporites of the Paradox Formation are nearly 2 km thick and have been deformed to produce a series of northwest-southeast-trending salt anticlines where the salt is locally thickened to more than 4000 m. The evolution of the normal faults is related to the salt movement and final collapse of the anticlines.

In this study I focused on the lower-Jurassic eolian Navajo Sandstone and the overlying mid-Jurassic Entrada Sandstone. The latter one is composed of three members, in stratigraphic ascending order: (1) the Dewey Bridge Member, (2) the Slick Rock Member and the (3) the Moab (Tongue) Member.

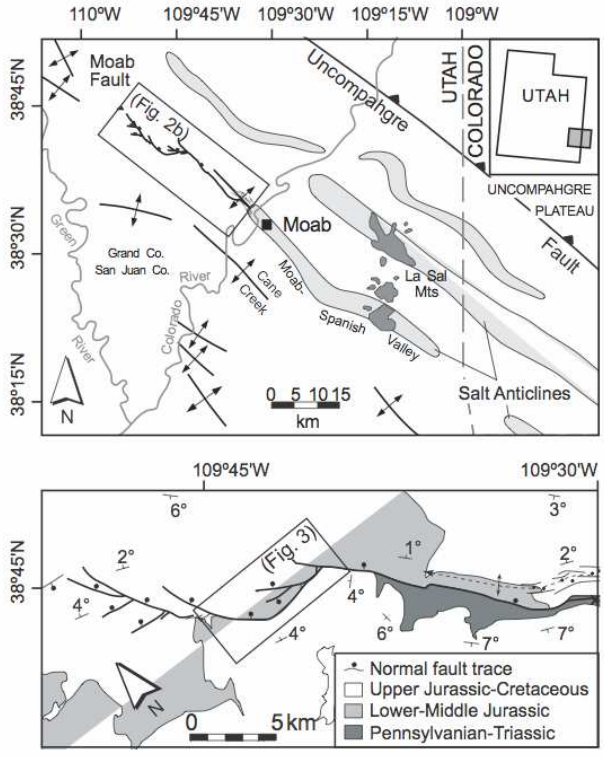


Fig.7: Study area northwest of the city of Moab (Davatzas et. al. 2005)

3.5 Navajo Sandstone

The Navajo Sandstone of this area is characterized by a well-sorted, fine-grained quarzarenite. The typical sedimentological feature is a large-scale eolian cross-stratification (Fig. 8). Occasionally the sandstones contain local limestone beds that are as thick as approximately 3 m. These limestones were deposited in inter-dune playas and are associated with fossil trees, dinosaur footprints, and invertebrate remains (Nuccio & Condon, 1996).

Internally the sandstone is white colored, sometimes orange or brown colored. These impressive variations of color are due to the bleaching, caused by reducing fluids, which migrated through the entire unit. The overall good porosities and permeabilities allowed large volumes of reducing fluids to flush through the sandstone.

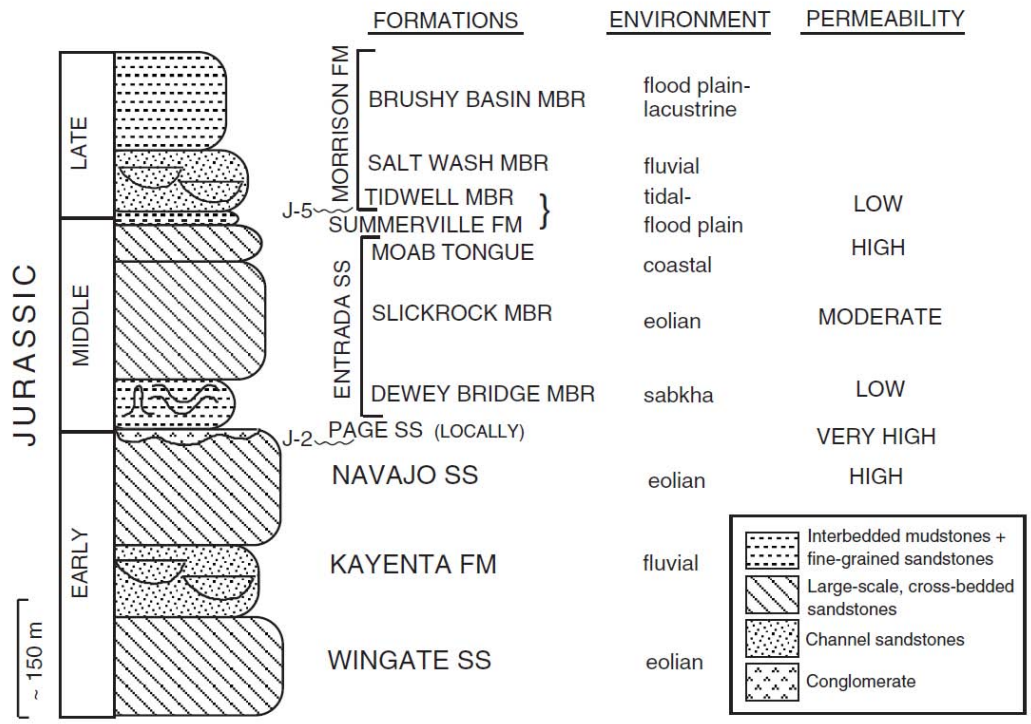


Fig.: 8: Jurassic stratigraphic succession of the study area (Chan et. al. 2000)

3.6 Entrada Sandstone

3.6.1 Dewey Bridge Member

The stratigraphic oldest sequence of the Entrada Sandstone is the Dewey Bridge Member, which contains interbedded sandstones, siltstones and mudstones. These deposits are a complex package of sebkha and eolian sediments. Due to the high amount of silt, the Dewey Member is considered as a low permeability zone. Fluid circulation only took place in sandier units or pipes.

3.6.2 Slick Rock Member

The Slick Rock Member is resistant sandstone, largely eolian in origin with alternating white-, pink- and salmon-colored layers. It represents a shift from the silt-dominated Dewey Member to a wet eolian dune system with horizontal stratification alternating with meter-scale dune sets. This Member is interpreted as an interval of moderate permeability, which are not bleached like the higher units.

3.6.3 Moab Tongue

This Member is the third and stratigraphic highest, member of the Entrada sandstone. This unit is largely white colored and commonly jointed. This fine-grained sandstone is characterized by horizontal stratification and cross-stratified eolian dune sets. It represents transitional beach to eolian dune deposits. Permeability was likely high, and therefore it is also bleached like the Navajo Sandstone.

3.7 Sample Location 1: Moab fault - Courthouse intersection

3.7.1 General overview

The Moab fault is an approximately 45 km long normal fault with a maximum throw of about 1 km in the Paradox Basin (Fig 9). Pennsylvanian through Cretaceous sandstone, shale and minor amounts of limestone are offset and exposed along the fault trace. The study area, which I choose, is located at the northwestern branch of the fault, about 30 km away from the city of Moab. In this location the footwall of the fault system is mainly build up by lower- and mid-Jurassic sandstones.

The northwestern portion of the Moab fault is divided into segments along its strike by a series of relays and intersections (Fig. 2). The area around Courthouse rock includes the intersection of the northwest-southeast striking main segment 1 of the Moab fault with the curving east-west-striking segment 2. Additionally, it includes the intersection between segment 2 and segment 3 at Mill-Canyon. The segments 4-6 are smaller map-scale faults.

Other regions of structural complexity along this section include two steps or fault relays along segment 2. The relay east of Mill Canyon, which separates segment 2a and 2b, is an extensional step. The separation of segment 2b and 2c west of Mill Canyon is a contractional step.

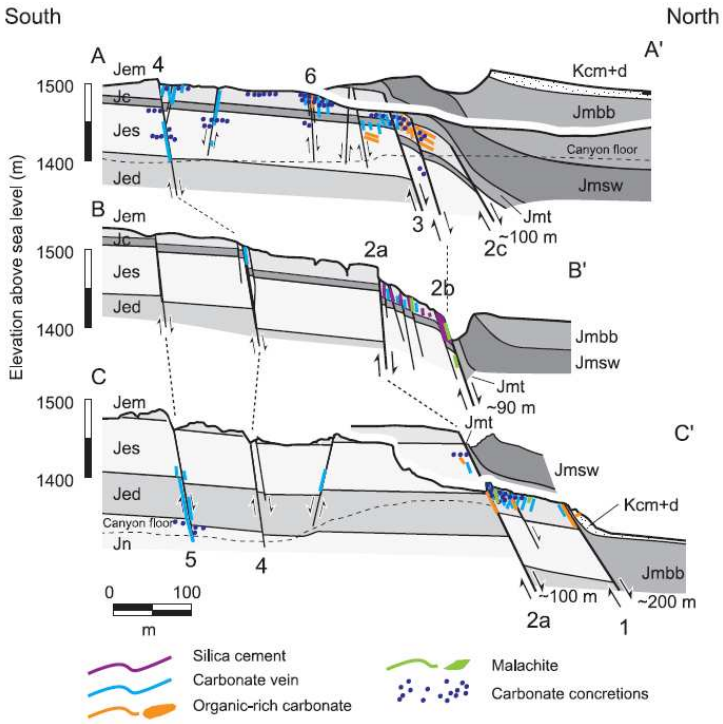


Fig. 9: The Moab fault at Courthouse intersection (Eichhubel et. al. 2009)

The segments of the Moab fault system that offset sandstones are composed of two classes of structural elements: (1) deformation bands and slip surfaces and (2) joints and shear joints. The distribution of deformation bands and joints along fault segments is controlled by fault geometry and the extensional and contractional character of fault segments. For fault segments that contain both deformation bands and (sheared) joints, the formation of deformation bands generally precedes the formation and shearing of joints. The relative distribution and ages of deformation bands and joints affected the hydrological properties during faulting. In general, deformation bands reduce permeability across and within the fault. In contrast, the opening of joints and shear joints increases the permeability. The resulting fragmented rock, are zones of well-connected fracture-porosity, acting as a zone with fault parallel fluid flow. Therefore these zones are preferred zones of calcite cementation.

3.7.2 Samples

In this area I focused on the fault related calcite precipitation, especially on the calcite cement in the joints and shear joints (Fig 10, 11&12). The advantage of testing these cements is that we can correlate their formation to one specific event. There are several papers (e.g. EICHUBEL et al. 2009, CHAN et al 2000) which deal with the problem of the timing of faulting. But it is generally accepted that these structures as described above, formed in the Tertiary related to the uplift of the Paradox basin. The cements in the fault were formed when reducing basin fluids migrated upward along the fault. The precipitation took place when these fluids mixed with descending meteoric waters in the Jurassic aquifer.

Fig 10: Joint filled with calcite: Courthose intersection.

There are already some measurements of fluid inclusions, which suggested a temperature of 85℃-130℃ for the cements. The auth ors mentioned that the lower range of the temperatures reflects calcite precipitation in the vicinity of the fault (therefore the formation-temperature) and the 130℃ is related to the focused hot fluid flow along the fault (Fig 13). In this case the cements in the fault core would reflect the

temperature of the formation where the fluids came from (e.g.: Paradox – Formation). The calcite cements can be related to one specific event – with known temperature and timing. The 85°-90℃ for the lower- and mid-Jurassi c Sandstones should only reflect the conditions of deepest burial in the early- to mid-Tertiary. Fluid inclusions measurements of quartz-cements, which predate calcite cements, have temperatures of about 60℃. So therefore, the calcite must also form after late Cretaceous.

Fig 11: Deformation bands and shear joints at Courthouse intersection

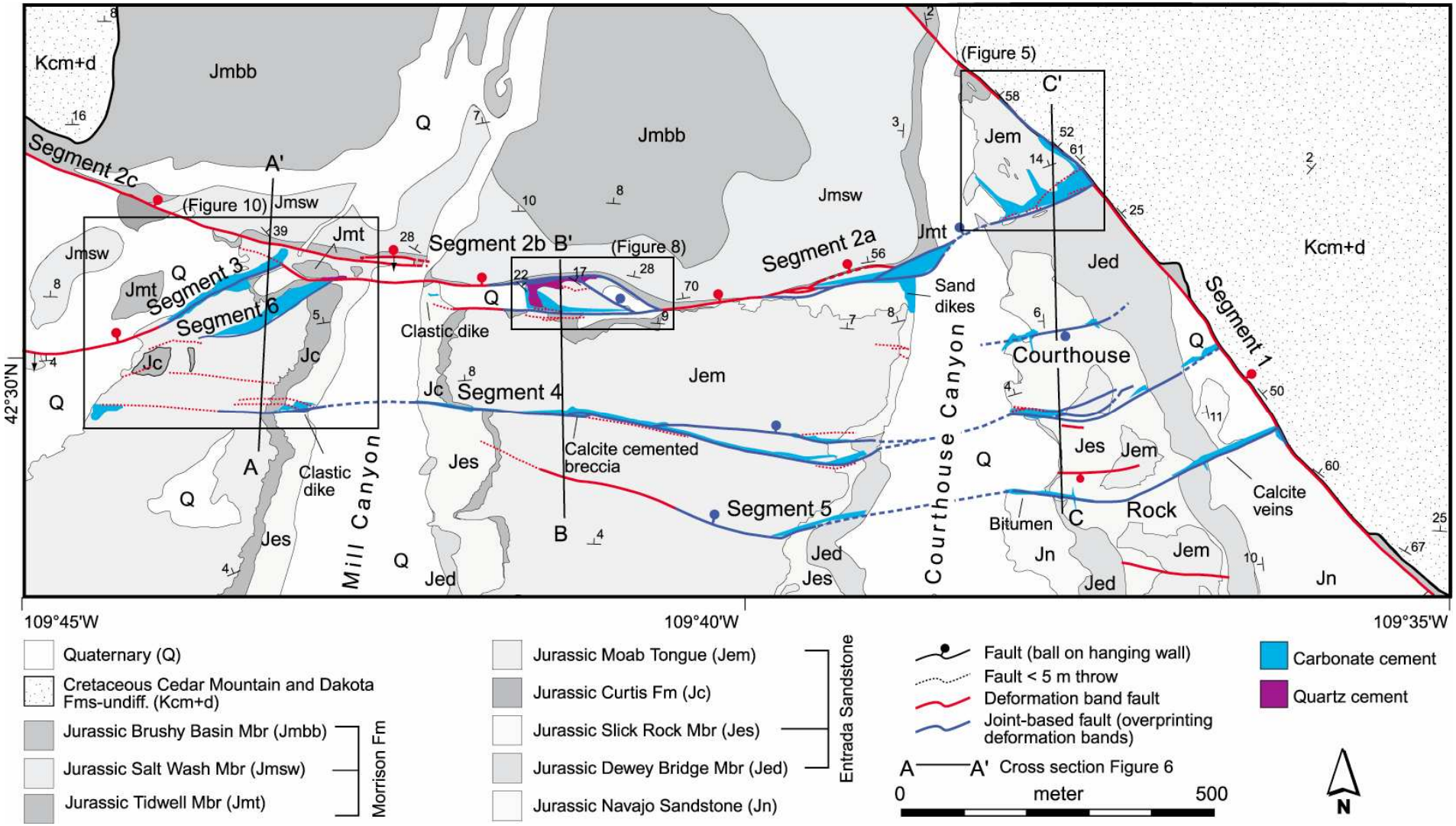


Fig. 12: Map of Courthouse intersection (EICHHUBEL et al. 2009)

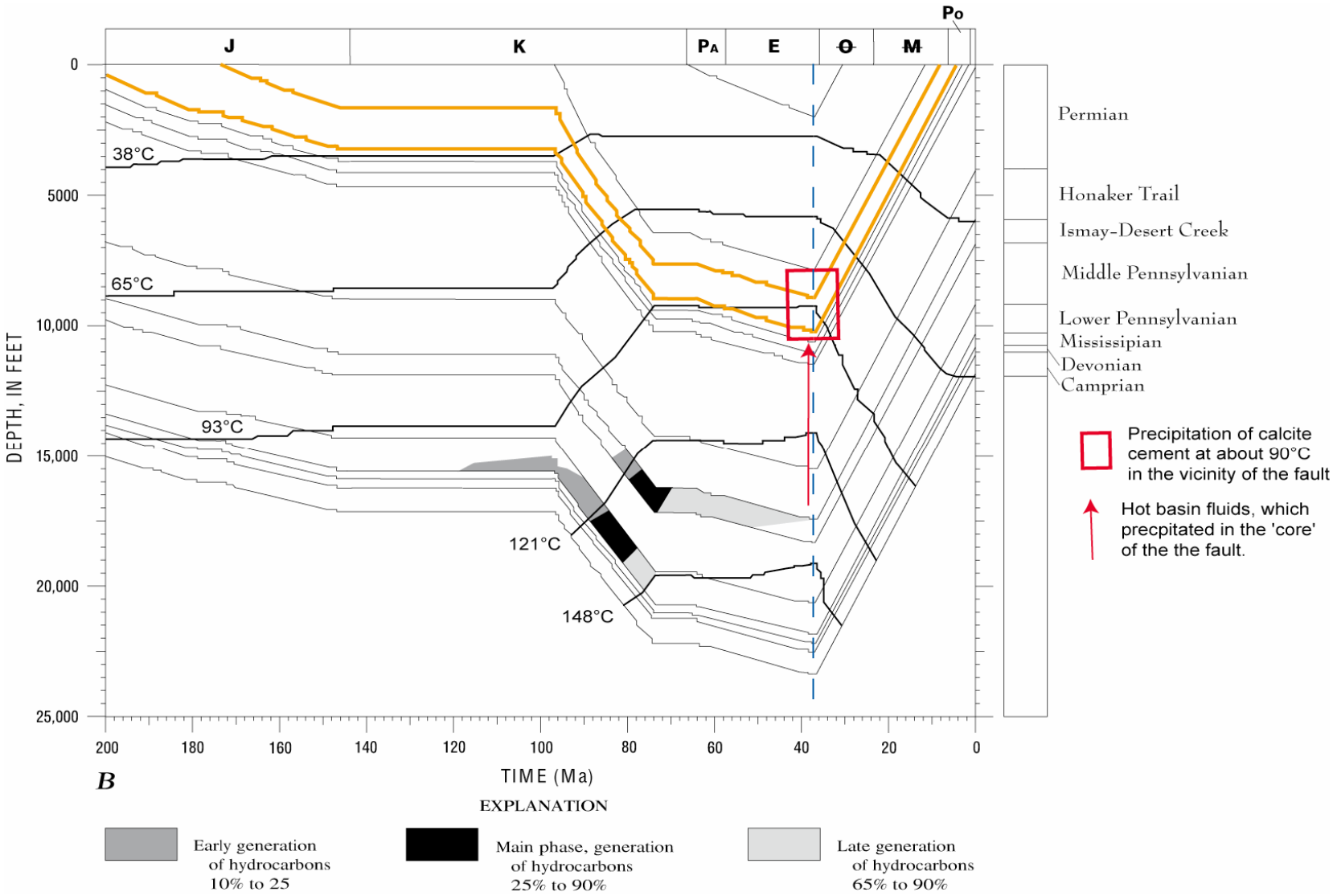


Fig. 13: Thermal model for the Moab region (Modified after NUCCIO&CONDON 1996)

3.8 Sample Location 2: Big Hole and Blueberry faults – Northwest of Green River

This area is located a few kilometers northwest of Green River. In contrast to the Moab fault, only few papers about these faults have been published. There are some about the structural evolution, but none about fault-related diagenesis. But the structure, geometry and timing of the faults is the same like in Courthouse Rock and also the stratigraphic sequence is the same. The idea was to test the same structures in this area and correlate them with the samples from Courthouse Intersection because Green river area has a different thermal history than Moab has. Therefore the calcite cements in the vicinity of the fault should reflect the 'normal' formation temperature of about 120°C and the cements in the core should be p recipitated at about 150°-160°C (Fig. 14).

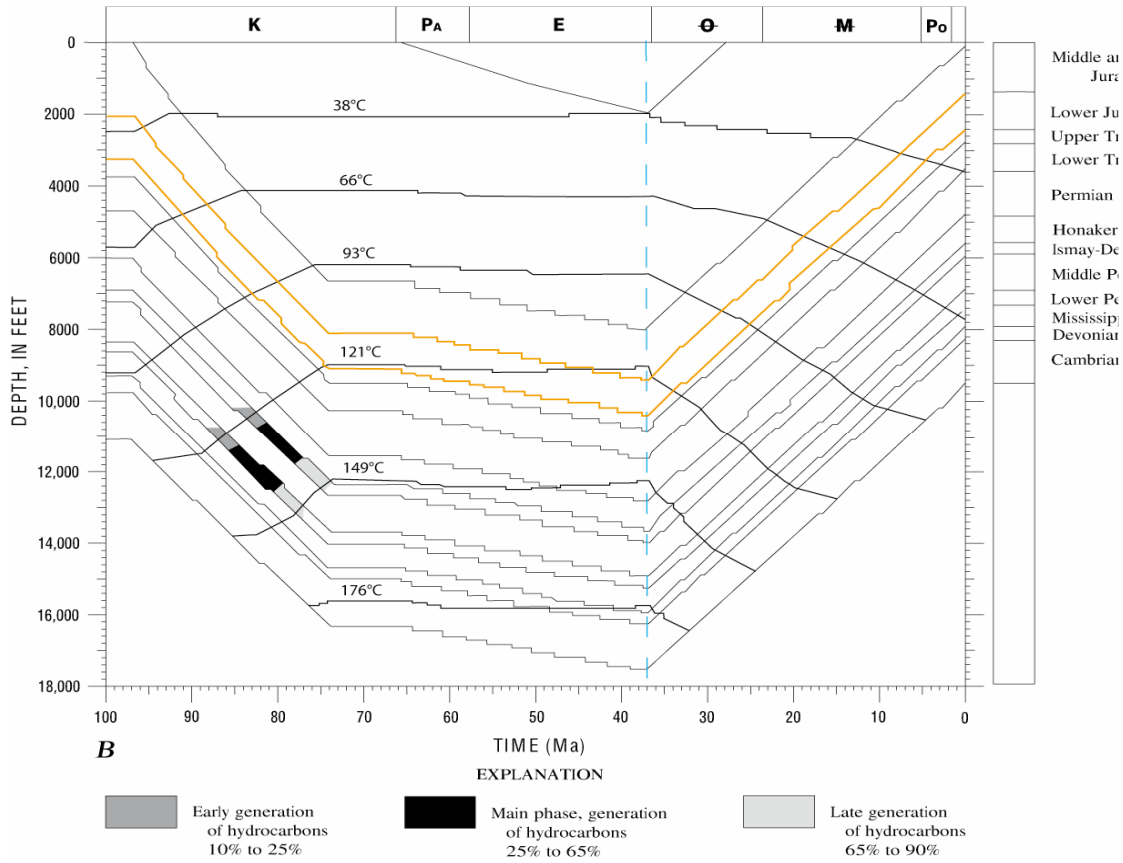


Fig. 14: Thermal model of the Green River area (Modified after NUCCIO&CONDON 1996)

Unfortunately we got a flat tire on the way to the sample location and it was not possible for us to continue that day.

3.9 Sample location 3: Rainbow Rocks

I chose this location because of the calcite cements and concretions which are described in several papers. Therefore isotopic analysis and estimations of the formation temperature is already available. The colorful outcrop exposures (Fig. 15) of diagenetic iron oxide, clay, and carbonate cements in the Jurassic Navajo Sandstone reflect a multi-phase history of fluid–rock interactions (Chan et. al. 2000).

Fig. 15: Rainbow rocks

Characteristic mineralogical and geochemical variability occurs on microscopic and outcrop scales throughout the Paradox Basin. The diagenetic facies have distinctive visual characteristics, variations in mineralogy, major oxides, trace elements, and carbon and oxygen isotopes. They include red and bleached sandstone, diffuse and concretionary iron oxide precipitates, and carbonate concretions (Fig 16). Development of these facies requires changes in the interstitial fluid environment and an open geochemical system with basin wide fluid flow and variations in redox conditions. Spatial and temporal changes in paleohydrologic and diagenetic conditions indicate complex coupling and feedbacks between stratigraphic architecture, fluid flow, and basin evolution.

Fig. 16: Calcite manganese concretions at rainbow rocks

3.10 Sample location 4: West of the entrance to Arches National Park

I chose this location because it is quite near to the Moab fault system (Fig. xx). So I expected to get samples both from the southern part and also from the northern part of the fault (Fig 17). Furthermore there is already a paper by Garden et. al. (2001), who worked at that location. The authors described that part of the fault as an exhumed paleo-hydrocarbon reservoir. The point is that the migration pathways of the hydrocarbons can be seen in the outcrops (Fig. 18). That's interesting because of the calcite cements and veins which are present in this area and have been already investigated in terms of isotopic composition and precipitation temperature.

Fig 17: The Moab fault as seen from the entrance to the National Park

Fig. 18: Calcite veins in Triassic limestone

3.11 Core samples

In addition to the outcrop samples, I would also suggest to investigate core samples from the same area (Moab - Green River - Confluence of Green and Colorado River) to compare them with the outcrop samples. The best way for us would be to search for cements, which were also formed at the same time (or postdates) the hydrocarbon expulsion in the early Tertiary because of two reasons: (1) Cements or calcite veins which were formed due to the processes of the Laramide orogeny represent one of the latest stages of the diagenesis evolution, therefore these structures postdate earlier ones and are easier to recognize. Moreover (2) the hydrocarbon expulsion is an event which can be used to date the calcites, because the pathways (or related structures) of the hydrocarbons should be easy to recognize without additional analysis and the time of oil and gas migration is known.

There might be orientated cores that could be used for the search of regional fracture sets, but in my opinion this is too complicated. Such a sample strategy would require a profound knowledge of the fracture evolution of each formation, which is very difficult. In the Paradox Basin are only few papers about this features and therefore it is likely to make mistakes whilst sampling because of the lack of information. The main problem would be (1) to distinguish between natural fractures and fractures developed due to the drilling process and (2) regional fractures usually develop with width spacing. Therefore, you might have to investigate many cores, which needs a lot of time.

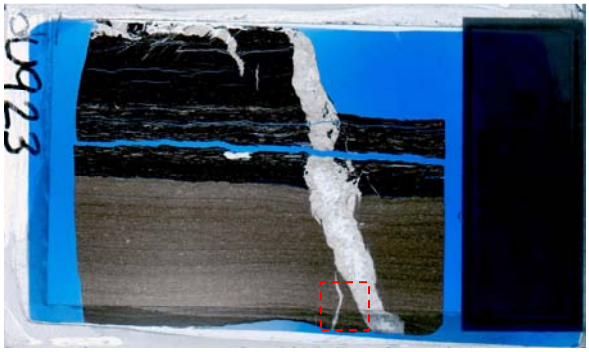
After looking at the online resource of the core research center, I found four cores that might be worth to look at. Three of them are located in the county of Grand and the last one in the county of San Juan.

3.11.1 Well Name: Cane Creek No.1

Township: 26S; Range: 20E; Section 25; Quarter SWSE
Core Library Number: U 923
Formation: Hermosa Group – Paradox Formation (Pennsylvanian)
Detailed core description: see RAUP & HITE (1992).

Overview:

The well Cane Creek No.1 is located approximately 15 km southwest of the city of Moab. The total depth of the drill hole is 2805ft (855m). The coring process started at a depth of 1840ft (561m) in the limestone of Honaker Trail Formation, which overlies the Paradox Formation. The main part of the core is build up by different Pennsylvanian evaporite facies, which are summarized in transgressive and regressive precipitation cycles. The important lithologies for our study are the black shales, which were deposited in the HST. These black shales are organic-rich carbonate shales, which consist mainly of dolomite, calcite, quartz and clay minerals. The amount of organic matter is about 0.5 – 13 weight percent. They are considered to be good source rocks. The interesting parts are calcite veins in the black shales which postdate all earlier structures. It seems to be that they were formed after the shales reached the oil and gas window, and are coeval with the expulsion and migration of the hydrocarbons.



TS (2650ft): Note the almost vertical, crosscutting vein – red rectangle.

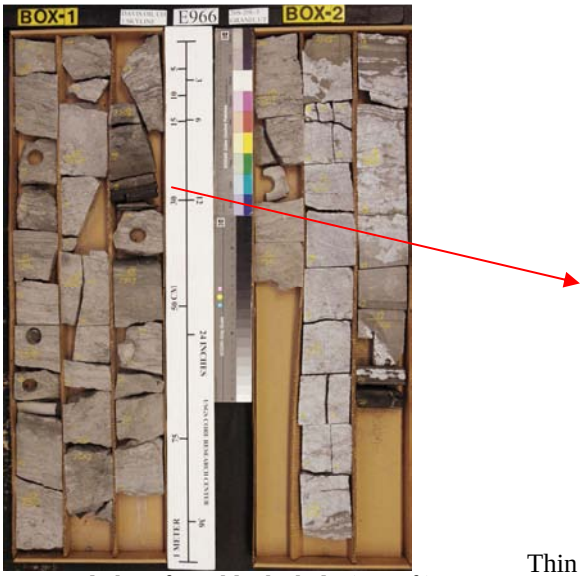
Thin section from black shale (2392ft)

An injection dyke due to overpressure related to the oil migration.

3.11.2 Well Name: Skyline No.1

Township: 26S; Range: 20E; Section 5; Quarter SWNWSE
Core Library Number: E 966
API number: 4301930796
Formation: Cane Creek - Paradox Formation (Pennsylvanian)

Unfortunately, there is no detailed core description. The only available data are photos of thin sections and the sequence view. The cored interval ranges from 7501.5ft to 7520.25ft (2286.5m – 2292.2m). The lithology is mainly carbonate, based on the picture investigations. There are also the same calcite veins, similar to Cane Creek No.1, in thin black layers.



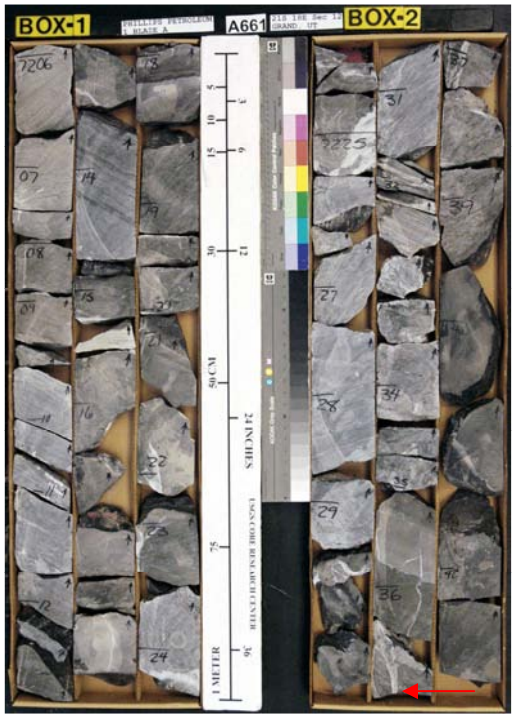
Core sample box from black shale (2392ft)

Thin section from a sample at 7509.5

3.11.3 Well Name: Blaze A No.1

Township: 21S; Range: 18E; Section 12; Quarter SWNESW
Core Library Number: A 661
API number: 4301930207
Formation: Moenkopi Formation (Lower Triassic)

The cored interval ranges from 7206ft to 7244ft (2196m – 2208m). The lithologiy is mainly carbonate, based on the picture investigations. Limestone, in the Moenkopi Formation, only occurs in the Sinbad Member. Unfortunately, there are no online resources for core descriptions or available thin sections. Nevertheless, the sequence view also shows subvertical calcite veins above dark layers. Therefore, I think we should also take some samples of this core.

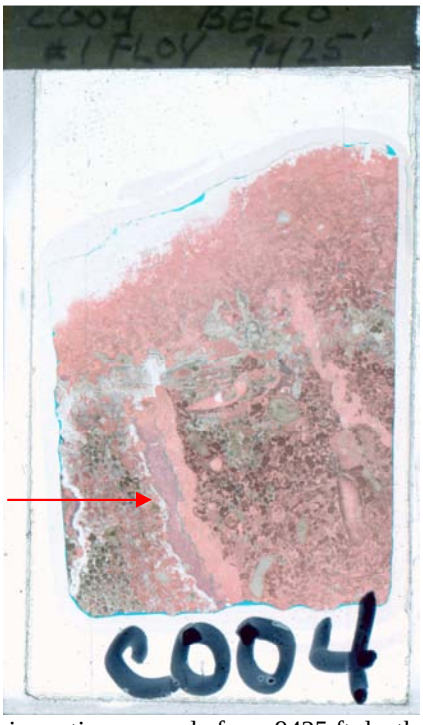


Sequence view from 7206ft until 7243ft
Red arrow: calcite vein

3.11.4 Well Name: Floy Salt Wash No.1

Township: 23S; Range: 17E; Section 11; Quarter SESW
Core Library Number: C 004
API number: 4301905082
Formation: Age is Mississippian – Formation not determined (prob. Leadville or Redwall Limestone)

The cored interval ranges from 9402ft to 9666ft (2866m – 2946m). Thin sections are available approximately every 10ft. The core is mainly build up by shallow water carbonates. The picture of the thin section shows peloids, some benthic foraminifera and crinoids. The section is stained and most of the components show red to pink color, which means that they consist of calcite (I would not expect aragonite in such depths). As you can see, there is a big calcite vein (arrow) in the center of the picture, which seems to be the youngest feature. It might be worth to get samples from this vein.



Thin section - sample from 9425 ft depth.

3.12 Summary

My strategy is based on one event, which affects the entire Paradox Basin at the early Tertiary – with deepest burial conditions. Rather than searching for different cements in one stratigraphic unit at different stages in the burial history, I it is easier to search for cements and veins related to one event in different formations. A very intensive event is the change from subsidence to uplift in Paleocene/Eocene times. The evolution of the major faults and also the development of the pathways for the basin fluids and hydrocarbons are an advantage to finding cements related to this event. Therefore there are different methods, like fluid inclusions, hc's in the pore space or the cement-facies to distinguish the cements formed in early Tertiary times. In different locations, with different thermal histories we should therefore be able to get proper samples.

If this works out we will have samples within a range of formation temperature from 70° - 160°C. Unfortunately I had not enough time to analyze the samples on my own and in fact I was only responsible for the sampling strategy. Sarah Bergman, who is the graduate student and who is responsible for the entire project will do the analysis in the middle of August at Caltech – University in California. As soon as she has finished her work she will send me the data and I can provide it than.

Overall this project was an amazing opportunity for me. I had the chance to work at the forefront of geoscience research and helped to develop a new tool. Not only the work at this project was fascinating, also the chance to get to know a lot of different researchers, especially the way of geoscience research in the United States, was a great experience. Besides my work on this project I had the chance to work with Prof. Charlotte B. Schreiber, an extraordinary researcher in the field of carbonates and evaporate. This was probably the most valuable experience for me in the U.S. She invited me to take her class and I also was invited to investigate several carbonate cores from the Michigan Basin with her. This was a very unique opportunity, to be instructed by a person who has worked more than 60 years in the field of Petroleum geology.

Furthermore I visited the University of Utah in Salt Lake City during my field work in the Paradox Basin. I got to know Prof. Marjorie Chan, former head of the geology department and I'm proud to say that she is willing to work with me on several projects.

In April 2010 I attended the first worldwide Clumped isotope workshop at the University of Washington where I got to know a lot of interesting research from all over the world. In a nutshell the 5 months in the USA were an amazing time for me and I got a lot of contacts which will be very helpful for me an my upcoming Ph.D.

3.13 References

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4 Isotopic Modelling

4.1 Geologic setting and sample characterization

Fossiliferous limestone samples were collected 50 km south of the Grand Canyon near Long Point, AZ (35º36.48'N, 112º26.27'W), at a locality known as Duff Brown Tank (Young 1999) (Fig. 1). They are from discrete intercalations within the late Paleocene to early Eocene Rim Gravels (Music Mountain Formation, Elston and Young 1991; Young 1999; Young 2001) which disconformably overly the Triassic Moenkopi Formation, and in turn are overlain disconformably by a single basalt flow dated by 40Ar/39Ar geochronology at 6.76±0.13 Ma (Billingsley et al. 2006). The samples were collected from a 15 cm-thick fossil-bearing limestone bed 36 m beneath the basalt (Fig. 1). Fossil-bearing limestones crop out in small exposures over an approximately 17 km-wide east-west area, and are interbedded with arkosic sandstones and silt. These sediments have been interpreted to represent fluvial and shallow lacustrine deposition in paleocanyons incised into the Colorado Plateau and in a braided flood plain environment on the plateau surface (Young 1999). However, the continuity of the limestone beds and occurrence of snails and ostracodes within them may be more suggestive of a warm spring discharge complex than a shallow lake as the most probable hydrologic setting (R. Forester, pers. comm.). A spring and groundwater-dominated wetland such as the southern Pahranagat "Lake," Pahranagat Valley, Nevada, may be a modern analog for the samples' depositional environment. Multiple generations of carbonate were identified in hand sample and in thin section, including the shells of viviparid gastropods up to 2.5 cm in diameter, limestone micritic matrix, and sparry infilling cement. A transverse cross section through a gastropod shell (sample DB4) and images of the matrix that typify the specimens we sampled are shown in Fig. 2.

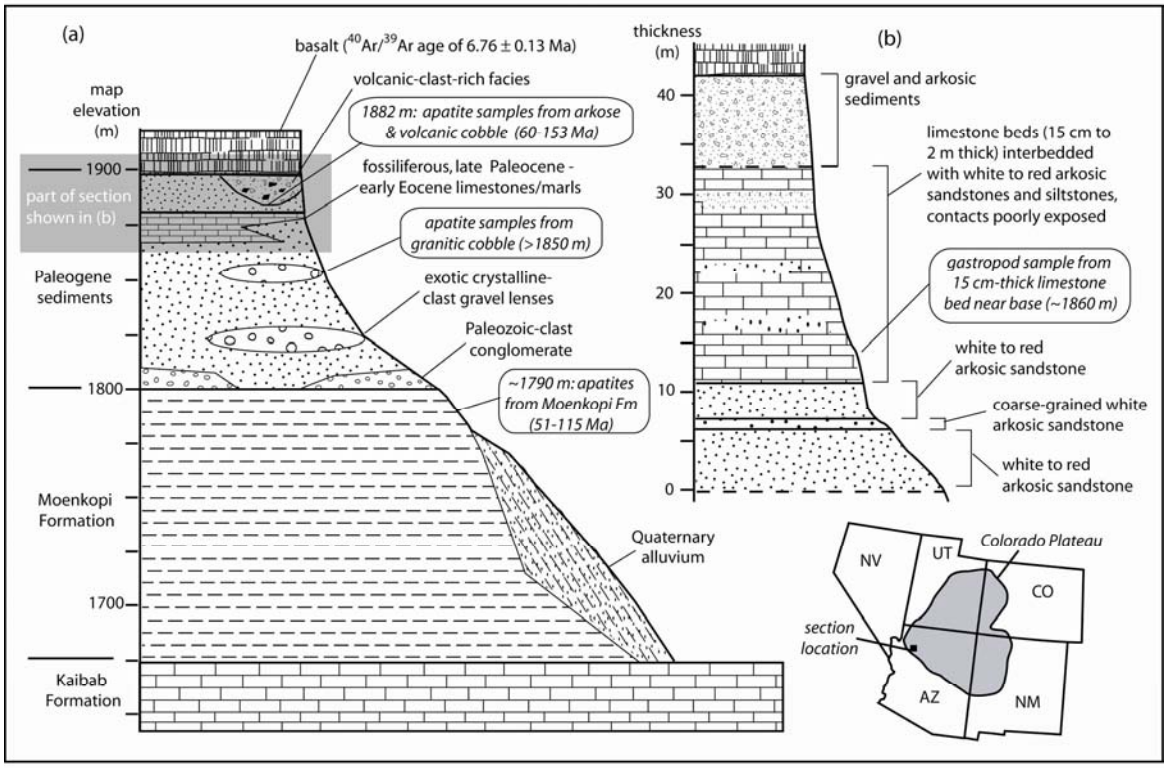


Fig. 1

The brownish color of the shells in thin section delineates growth banding and likely reflects organic remnants (e.g., Scholle and Ulmer-Scholle 2003). The shells exhibit parallel growth bands and well preserved, fibrous wall fabrics lacking large crystals (e.g., Bathurst 1975) (Fig. 2b). The shells are not leached, suggesting that the gastropods were buried and cemented rapidly, as little as days after deposition. Micrite surrounds and partially fills each of the gastropod shells, suggesting that the shells were deposited in the soft sediments upon the animals' deaths.

The peloidal, micritic matrix of probable bacterial origin is sparsely fossiliferous, containing ostracode carapices and skeletal fragments. The limited breakage of the small gastropod shells (≤0.25 cm diameter) and lack of pellet compaction in the matrix (Fig. 2c-d) suggests early cementation of the lime mud, likely within one seasonal cycle of deposition. Elongate pores in the matrix, now filled with microspar (Fig. 2d), may have been spaces vacated by leached organic material in the rapidly cemented micrite. Sparry cement occurs in factures and chambers within the shells (Fig. 2e-f), indicating that precipitation followed burial of the primary shell. The same generation of sparry cement that surrounds the inner and outer walls of the large shell shown in Fig. 2e fills the shell fractures. It appears that sparry cement (~50 □m grains) first precipitated at the shell margins and subsequently developed into an

interlocking mosaic of euhedral 500-1000 □m grains (Fig. 2f). Large open voids are preserved in each of the samples, as matrix material and cement have not in-filled the gastropod chambers completely.

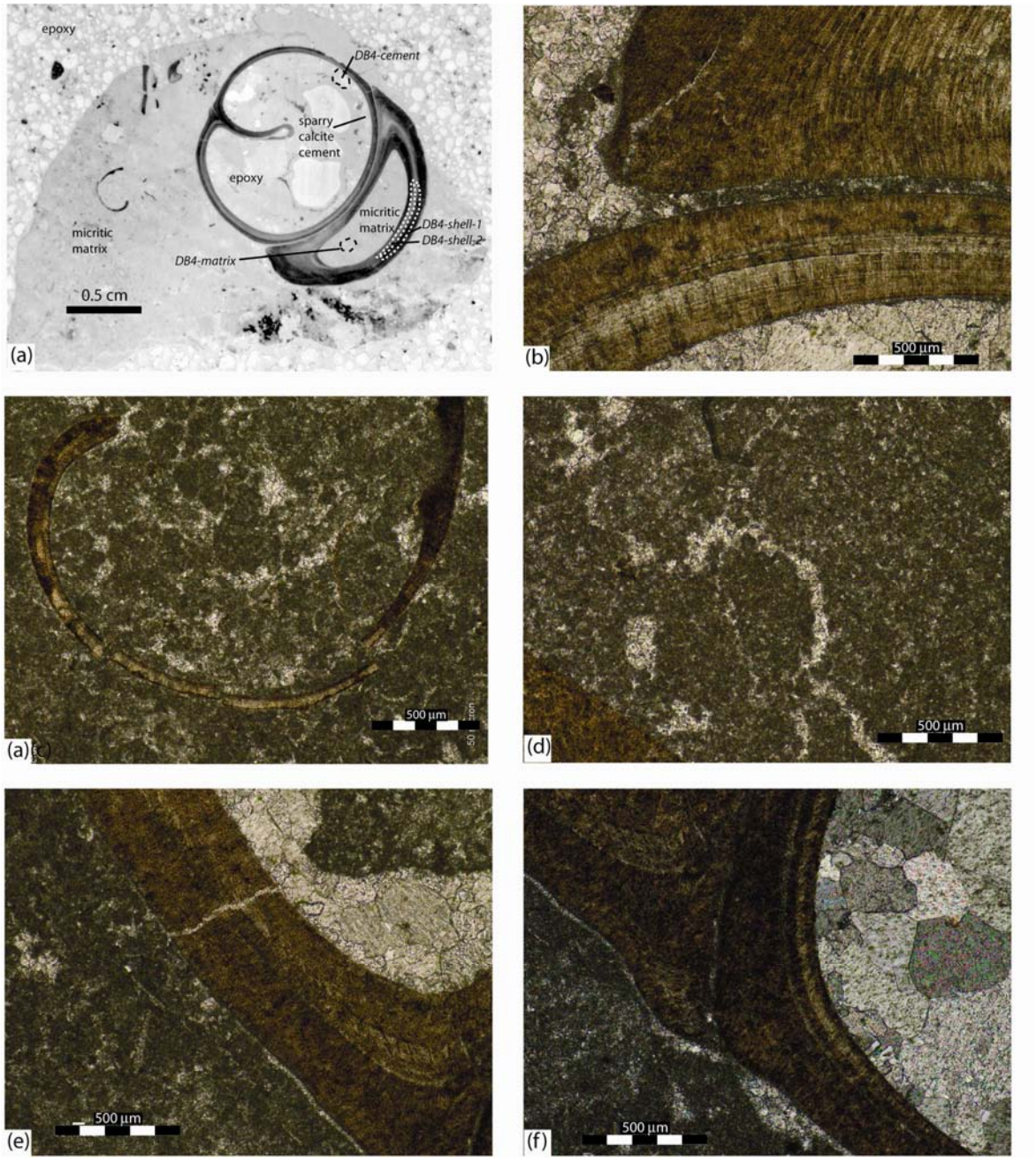


Fig 2: Pictures of the thin sections from the gastropod sample.

4.2 Isotopic analysis

CO2 was produced by anhydrous phosphoric acid digestion of ~8 mg of carbonate powder from each sample at 25ºC for 12-24 hours using a McCrea-type reaction vessel (McCrea 1950; Swart 1991). Product CO2 was isolated and purified by conventional cryogenic procedures using the glass vacuum apparatus described by Ghosh et al. (2006a). Sample CO2 was entrained in He carrier gas flowing at a rate of 3 ml/min and passed through an Agilent Tech 6890N gas chromatograph (GC) column (Supel-Q-PLOT column with 530 m internal diameter, 30 m long) held at -10□C, and collected for 40 minutes. After evacuation of the He carrier gas, conventional cryogenic procedures were repeated twice to purify the sample before condensation into an evacuated glass vessel for transfer to the mass spectrometer.

Isotopic analysis of CO2 was performed at Caltech on a Finnigan MAT 253 mass spectrometer configured to measure masses 44-49 (Eiler and Schauble 2004). Values for Δ13C reported vs. VPDB and Δ18O reported vs. VSMOW were calculated using the program Isodat 2.0 and standardized by comparison with CO2 evolved from phosphoric acid digestion of the NBS-19 carbonate standard distributed by the International Atomic Energy Agency. The Δ47 values were calculated based on raw measurements of R45, R46, and R47, where Ri is the abundance of mass i relative to the abundance of mass 44 (Affek and Eiler 2006; Huntington et al. submitted-a; Wang et al. 2004). Results for 3 of 11 attempted analyses were rejected on the basis of high mass-48 signals, which are used to screen for the presence of hydrocarbons, chlorocarbons, or sulfur-bearing contaminants that may compromise temperature estimates (Eiler and Schauble 2004; Guo and Eiler 2007). Stable isotopic results (Δ13C, Δ18O, and Δ47) for the remaining 8 samples are summarized in Table 1 and reported in full in the data repository.

Values of Δ47 range from 0.438-0.670‰ (average 1se uncertainties of 0.008‰), corresponding to temperature estimates of 19.8-86.5ºC (±3.3ºC on average) (Table 1). Temperatures for two aliquots of calcified shell from the same sample (DB4-shell-1 and DB4-shell-2) agree within 1, with an average of 70.2ºC. The Δ13C of calcite values for the shell samples range from -9.6 to -9.1‰, while the matrix and cements are more positive (-6.6 to -5.5‰). The Δ18O of calcite values for 7 of the aliquots we analyzed are tightly clustered around an average of -14.1±0.5‰. The remaining sample is approximately 3‰ more negative. In contrast, the Δ18O of co-existing

fluids calculated from the temperature estimates and the calcite-water oxygen isotope fractionation relation of Kim and O'Neil (1997) varies by nearly 13‰ (Table 1). The Δ18O of water and temperature estimates for sample DB4-cement and DB4-matrix are within the range of typical Earth surface conditions. However, temperature estimates for the remaining samples are higher, suggesting that crystallization during a post-depositional thermal perturbation influenced 6 of the 8 analyzed samples.

4.3 Thermal history of Long Point samples

Stratigraphic considerations and recent (U-Th)/He data for Long Point apatites point to emplacement of the basalt, rather than depositional burial, as the source of heat for the thermal perturbation recorded by carbonate clumped-isotope thermometry. The thickness of early Tertiary Rim Gravels on the plateau rarely exceeds 200 m (Elston and Young 1991), and it is therefore unlikely that significant overburden existed above the sample prior to extrusion of the basalt. The preservation of large open cavities within the samples is consistent with this interpretation. Apatite (U-Th)/He thermochronometry is sensitive to temperatures from ca. 75-40ºC over geologic timescales (Farley 2000; Wolf et al. 1996), and post-depositional He loss in apatites can constrain reheating events in and above this range. (U-Th)/He dates for apatites from the Moenkopi sandstone collected 106 m below the basalt (Fig. 1) show no evidence of He loss after deposition of Music Mountain strata, precluding a protracted period of reheating due to burial for the Moenkopi and stratigraphically higher units (Flowers et al. 2008). In contrast, some detrital apatites from Eocene to Paleocene arkosic sediments located 15 m below the basalt flow do show evidence of post-depositional He loss, which Flowers and co-workers suggest was in response to the thermal disturbance associated with the lava flow.

As a consequence, we explored temperatures likely experienced by the carbonate samples resulting from extrusion of overlying basalt using a 1D conductive thermal model that accounts for latent heat of crystallization (Carslaw and Jaeger 1986; Philpotts 1990). The temperature T at depth x in the country rock below the center of the basalt at time t after flow emplacement is given by:

$$T(x,t) = T_0 + \frac{(T_S - T_0)}{2}\left[erf\left(\frac{a-x}{2\sqrt{kt}}\right) + erf\left(\frac{a+x}{2\sqrt{kt}}\right)\right]$$

where Ts is the solidification temperature of the lava, T0 is the initial country rock temperature and air temperature, 2a is the flow thickness, and k is the thermal diffusivity of the basalt and country rock (Carslaw and Jaeger 1986). We assume k is 1x10-6 m2/s, T0 is 15ºC, and the basalt thickness is 20 m based on field observations. We assume the lava was emplaced near its crystallization temperature of 950ºC, a reasonable choice given the fact that phenocrysts are commonly found in association with quenched basaltic glass. The amount of heat equivalent to the heat liberated by crystallization is incorporated by adjusting the initial temperature of the lava upward, substituting (T0 + L /Cp) for T0 in equation 1 (Philpotts 1990), where L is the latent heat of crystallization and Cp is the heat capacity (4x105 J/Kg and 840 J/Kg.K, respectively). Although this analytical approximation predicts basalt temperatures that are too high, it provides a close estimate of the rate of cooling in the country rock. Radiative cooling of the basalt surface in contact with air and vertical circulation of fluids are not considered, so our model results in maximum temperature estimates. At 36±5 m below the basalt contact, maximum temperatures ranging from ~150-180ºC are attained within a few decades following basalt emplacement (Fig. 3).

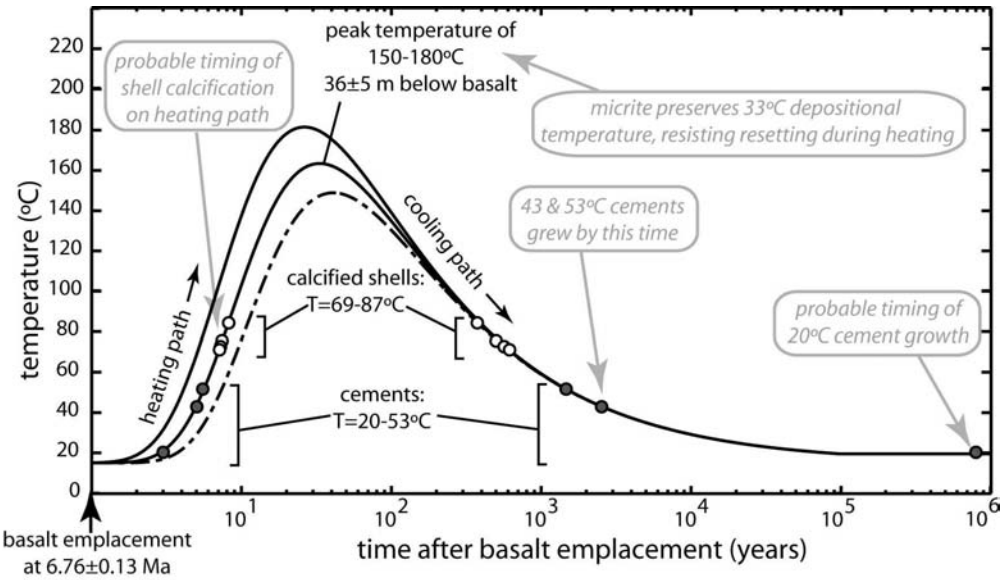


Fig. 3

4.4 Relating calcite temperatures to thermal history

On the basis of textural evidence and cross-cutting relationships, it is clear that precipitation of the aragonitic gastropod shells and original lacustrine micrite plus pore-filling cement occurred within a relatively brief interval and predated growth of sparry calcite cement; however, the order in which each of these textural components acquired its temperature signature upon final crystallization is not clear. Carbonate clumped-isotope thermometry would define unambiguously the order of final crystallization if the sample's thermal history were monotonic. For our sample this is not the case, and some ambiguity in relating the paleotemperature measurements to the thermal model arises because the observed range of calcite growth temperatures (20-87°C) is passed through during both heating and cooling following the basalt emplacement (Fig. 3). Detailed examination of the carbonate textures can resolve some of this ambiguity.

The matrix calcite sample (DB4-matrix) records a temperature of 33ºC (Table 1). The distribution of limestone deposits and the faunal assemblages they contain suggest deposition in a warm spring discharge complex. The lack of compaction exhibited in the peloidal matrix indicates that initial cementation of the lime mud happened quickly, in as little as days or as much as a year, as cementation typically is associated with seasonal variations in pH. Thus both the micrite and pore-filling cement should record depositional conditions in the spring- and groundwater-fed wetland, provided that they were not subsequently re-crystallized under different ambient conditions. No textural evidence of re-crystallization or fracture-filling microspar was found in the matrix material we sampled (Fig. 2 c-d). Moreover, if the matrix sample temperature were reset during the thermal perturbation, we would expect both types of inorganic calcite in the sample (i.e., the calcified gastropod shell and matrix) to be reset to the same temperature. The shell temperature in the same specimen (DB4) is nearly 40ºC warmer than the matrix sample, indicating that this is not the case. Therefore we infer that the 32.9±2.0ºC temperature and -10.5‰ Δ18Owater value determined for DB4-matrix represent surface water conditions at the time of deposition, and that the micritic limestone matrix resisted resetting at temperatures of at least 87°C (i.e., the warmest temperature recorded by the samples and minimum peak temperature they experienced) and as much as 150-180°C (i.e., the range of peak temperatures predicted by the thermal model, Fig. 2).

The primary aragonitic gastropod shells and micrite were precipitated coevally, and thus it is likely that the shells recorded similar temperature conditions as the micrite (~33°C) prior to calcite replacement at temperatures of 70-87°C (Table 1). Aragonite is metastable at Earth's surface and readily converts to calcite during thermal perturbation. If aragonite dissolution is followed immediately by calcite precipitation across micron-scale distances, piecemeal replacement by rapid nucleation of small crystals may result in considerable retention of original fine-scale morphological details (e.g., Halley 1983). Precipitation of fine-grained calcite and preservation of textural detail such as gastropod shell growth bands and fibrous wall structures (Fig. 2b, e-f) suggests that aragonite replacement was rapid. Agreement between temperatures recorded by inner and outer layers of the same shell (DB4-shell-1 and DB4-shell-2) also is consistent with rapid replacement. While temperatures of ~400°C are needed for rapid replacement of aragonite by calcite to occur via dry solid-state reaction (Spry 1969), the transformation can occur rapidly at <100°C if water is present (e.g., Taft 1967). Buried sediments are rarely dry, and indeed indication from textural analysis and clumped-isotope thermometry that rapid shell calcification occurred well below 100°C indicates that pore-filling fluid must have been present for aragonite to be replaced rapidly by calcite.

The thermal model and range of temperatures recorded by the calcified shells allow us to constrain the timing of aragonite-to-calcite transition to the narrow window between ~10 and 660 yr following basalt emplacement (Fig. 3, Table 2). Whether the transition occurred on the heating or cooling path depends on when pore-filling fluid was present. In the unlikely case that the sample resided under dry conditions prior to the thermal perturbation, infiltration into the rock of a pulse of hot, externally derived fluid would have been necessary to cause the aragonite-to-calcite transition. In this scenario, the 69-87°C temperatures recorded by the calcified shells would represent the ambient conditions at the time of fluid infiltration on either the heating or cooling segment of the temperature path. If, instead, fluid were present in the rock throughout the thermal perturbation, calcite replacement would have occurred the first time some temperature threshold for aragonite stability was exceeded during heating. In this case, the clumped-isotope signal would correspond to the first time the samples were heated to 69-87°C, within a decade of basalt emplacement.

Consideration of the length of time over which calcification of the three shells occurred supports replacement on the heating path. The thermal model indicates

that the samples remained in the 69-87°C range over which aragonite replacement occurred for <2 years on the heating path (Fig. 2). The model also indicates that after peak temperatures were reached, it took the samples ~300 years to cool through this same temperature range. As the samples were all collected from the same 15-cm-thick horizon in the same locality and exhibit the same textural characteristics (i.e., matrix composition, grain size, porosity), there is no reason to suspect that they experienced significantly different histories of heating and fluid circulation. Thus shell calcification on the cooling path would require that (1) the sediments were dry during the thermal perturbation prior to this time and (2) some aragonite remained stable for at least 300 years under the same conditions that caused the first shell to undergo rapid replacement in the presence of water. We suggest that this is unlikely, and favor a model of aragonite replacement during a relatively brief time interval on the heating path within a decade of the basalt emplacement. If our interpretation is correct, the variation in replacement temperature for the three shells may reflect slight local variation in permeability or fluid temperature and composition. Calcification on the heating path would imply that the calcified samples resisted resetting during subsequent heating to peak temperatures (Fig. 2).

Sparry calcite cements occurring in chambers and in fractures in the calcified shells record growth temperatures of 20, 43, and 53°C (Table 1), a relatively large range of temperatures that may suggest a prolonged period of cement precipitation. The coarse, clear, euhedral texture of the cements is consistent with growth below the water table where lack of soil gas leads to efficient cement precipitation (e.g., Halley 1983). In the unlikely case that dry conditions prevailed in the rock prior to the thermal perturbation, no carbonate-rich fluid capable of precipitating the cement would have been available before the ≥70ºC fluid pulse that accompanied aragonite replacement infiltrated the sample. In this scenario, the cement temperatures, all lower than 70ºC, would have been recorded during cooling no earlier than ~1.4 kyr following basalt emplacement according to the thermal model (Fig. 3). If, instead, fluid were present throughout the deposit's history (the most likely scenario), precipitation of the 20ºC cement could have occurred at any time following deposition and shallow burial except when temperatures were elevated for ~105 yrs immediately following basalt emplacement. In this case, precipitation of the 43 and 53ºC cements

could have occurred either immediately after the basalt emplacement on the heating path or between 1.4 and 2.6 kyr following the basalt emplacement during cooling.

The sparry cements exhibit no textural evidence of alteration (Fig. 2). If they were present prior to re-crystallization of the shells, they must have resisted resetting in the presence of fluid at temperatures of at least 87ºC and up to 150-180ºC. The resistance of the primary micrite to resetting during heating to these temperatures following basalt emplacement indicates this is possible. However, we note that the same gastropod-chamber-filling cement that records a temperature of 20ºC also fills the shell fracture shown in Fig. 2. If the shell fractured due to volume change associated with the aragonite-to-calcite transition then the cement must have precipitated after the thermal perturbation. Although such textural information is lacking for the 43 and 53ºC cements, their elevated temperatures still require that they precipitated within 2.6 kyr following the basalt flow.

4.5 Fluid-rock interactions

Changes in Δ18O of the fluid and rock that accompany changes in temperature permit us to model the isotopic evolution of the fluid-rock system recorded by our sample. Following the methods of Banner and Hansen (1990), we modeled cooling and heating scenarios from 0-100ºC, for an initial Δ18O of carbonate equal to the sample average and initial Δ18O of water values spanning the range observed for modern surface and shallow ground waters near Long Point (-2.5 to -15‰, Guay et al. 2004). Open-system solutions in which repeated addition of fluid with constant isotopic composition buffers the system predict up to 15‰ variations in Δ18O of carbonate (Fig. 4). This pattern does not resemble our data (Table 1). In contrast, closed-system solutions for isotopic evolution during both heating and cooling fit the data well, regardless of initial water composition, as long as the water-rock ratio does not exceed ~0.03 weight % (Fig. 4). This result strongly suggests that calcite growth and re-crystallization occurred in a rock-buffered system. A slight difference in the O-isotopic composition of the carbonate for one of the cements (DB2-cement) suggests some variability in water-rock ratios, perhaps as high as ~0.05 weight %.

Although the closed-system model fits our data well, presumably the actual evolution of the fluid-rock system differed somewhat from this idealized end-member scenario.

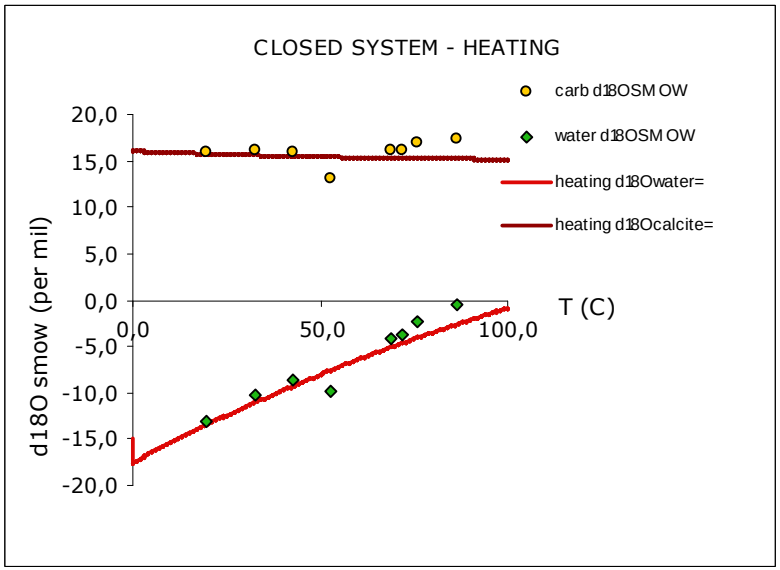
For example, cement precipitation almost certainly occurred due to increased fluid circulation or dissolved CaCO3 content. However, given the lack of variation in Δ18O of carbonate in samples that grew between 20 and 87ºC, any pulses of circulating fluid must have been small enough to evolve rapidly towards O-isotopic equilibrium with the rock upon infiltration.

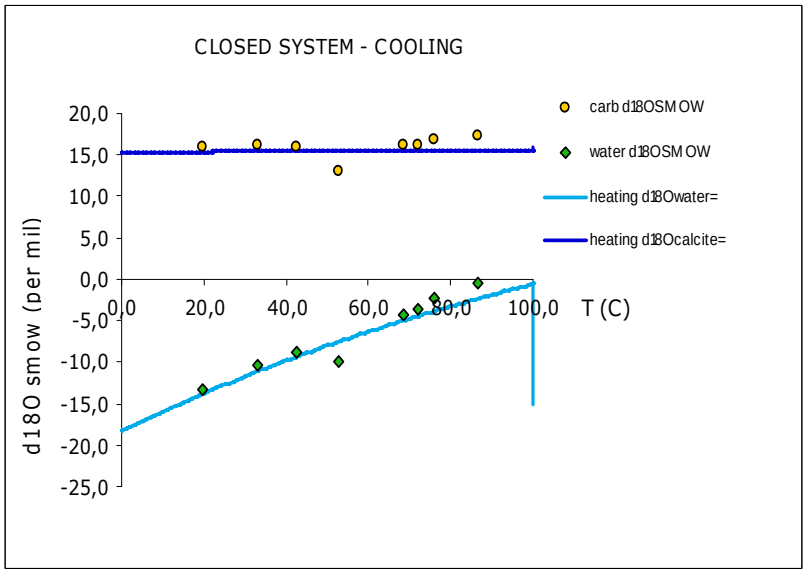
Table 1. Isotopic results

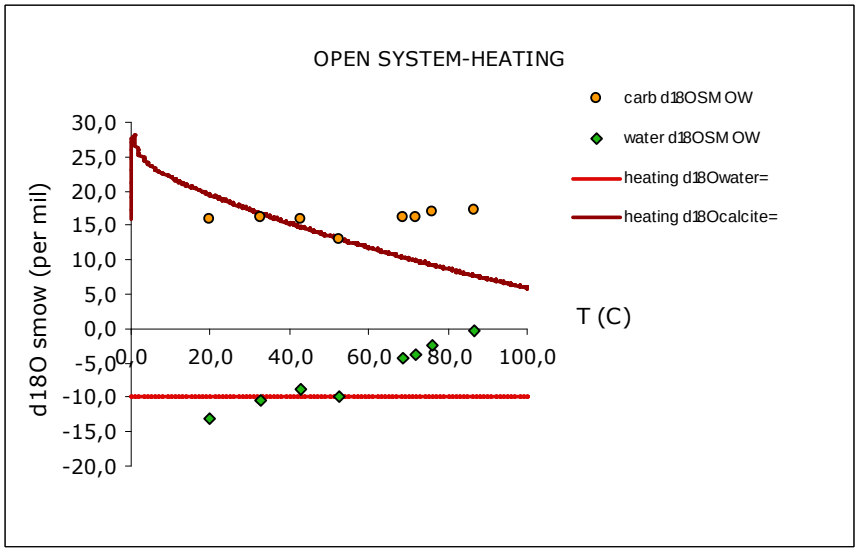
$\delta^{13}C_{PDB}$ (‰)	$\delta^{18}O_{PDB}$ (‰)	$\delta^{18}O_{SMOW}$ (‰)	Δ_{47} (‰)	1se Δ_{47} (‰)	T (°C)	
Calcified Shell Samples:						
DB2-shell						
-9.6	-13.6	-2.5	0.466	0.0075	76.0	±4.0
DB3-shell						
-9.1	-13.2	-0.6	0.438	0.0083	86.5	±4.5
DB4-shell-1						
-9.2	-14.3	-3.8	0.478	0.0079	71.9	±3.9
DB4-shell-2						
-9.1	-14.3	-4.3	0.487	0.0079	68.6	±3.5
Cement Samples:						
DB2-cement						
-5.5	-17.3	-9.9	0.538	0.0090	52.7	±3.3
DB3-cement						
-6.3	-14.5	-8.8	0.574	0.0076	42.7	±2.6
DB4-cement						
-6.5	-14.5	-13.2	0.670	0.0102	19.8	±2.4
Matrix Limestone Sample:						
DB4-matrix						
-6.6	-14.4	-10.5	0.612	0.0067	32.9	±2.0

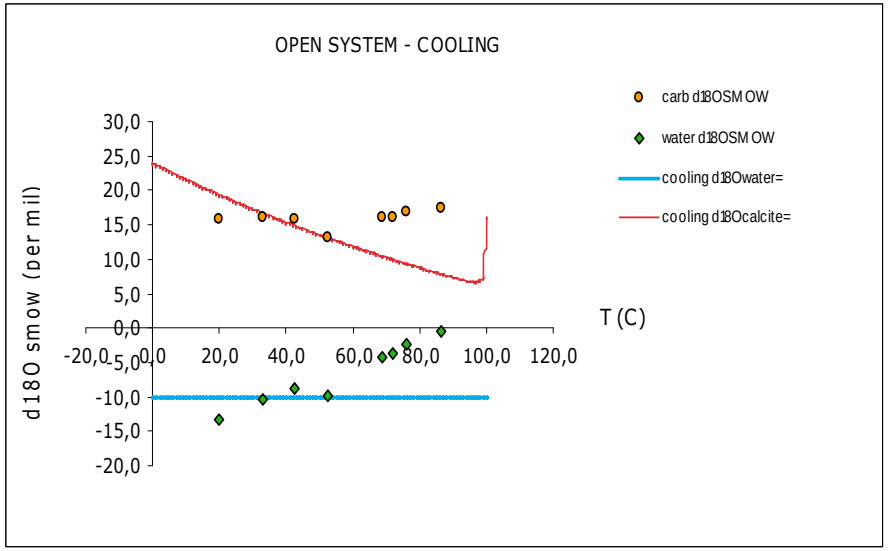
Sample	T (°C)	Time (yr, on heating pa			Time (yr, on cooling path		
		31 m	36 m	41 m	31 m	36 m	41 m
DB2-shell	76.0	5.4	7.4	9.9	513	505	497
DB3-shell	86.5	6.0	8.3	11.2	365	358	349
DB4-shell-1	71.9	5.2	7.1	9.5	594	586	578
DB4-shell-2	68.6	5.0	6.8	9.1	673	665	657
DB2-cement	52.7	4.1	5.7	7.4	1388	1381	1373
DB3-cement	42.7	3.6	4.9	6.4	2595	2588	2580
DB4-cement	19.8	2.1	2.8	3.7	87292	87285	87278
DB4-matrix	32.9	3.1	4.1	5.4	6252	6245	6237

Table 1 and table 2: Isotopic results


CLOSED SYSTEM - HEATING
carb d18OSMOW
water d18OSMOW
heating d18Owater=
heating d18Ocalcite=
d18O smow (per mil)
T (C)
20,0
15,0
10,0
5,0
0,0
-5,0
-10,0
-15,0
-20,0
0,0
50,0
100,0


CLOSED SYSTEM - COOLING
carb d18OSMOW
water d18OSMOW
heating d18Owater=
heating d18Ocalcite=
d18O smow (per mil)
T (C)
20,0
15,0
10,0
5,0
0,0
-5,0
-10,0
-15,0
-20,0
-25,0
0,0
20,0
40,0
60,0
80,0
100,0


OPEN SYSTEM-HEATING
carb d18OSMOW
water d18OSMOW
heating d18Owater=
heating d18Ocalcite=
d18O smow (per mil)
T (C)
30,0
25,0
20,0
15,0
10,0
5,0
0,0
-5,0
-10,0
-15,0
-20,0
0,0
20,0
40,0
60,0
80,0
100,0


OPEN SYSTEM - COOLING
carb d18OSMOW
water d18OSMOW
cooling d18Owater=
cooling d18Ocalcite=
d18O smow (per mil)
T (C)
30,0
25,0
20,0
15,0
10,0
5,0
0,0
-5,0
-10,0
-15,0
-20,0
0,0
20,0
40,0
60,0
80,0
100,0
120,0

4.6 Preferred history of carbonate growth and replacement

Taken together, the observations suggest the following likely history of carbonate precipitation and replacement, summarized in Fig. 3. Aragonitic gastropod shells and lime mud precipitated at ~33ºC in a groundwater and spring-fed complex in late Paleocene to early Eocene time. Upon deposition, the mud and shells were cemented rapidly as is most typical for spring deposits, preventing significant compaction of the sediments and leaching of the shells. The deposit was eventually buried beneath 36 m or more of interbedded limestone, silt, sand, and gravel. Maximum burial may have exceeded this depth, but not by much given the ~200 m maximum thickness of analogous units on the plateau surface and the lack of compaction exhibited by the gastropod-bearing horizon.

At 6.76 Ma, a basaltic lava flow buried the section. The basalt emplacement resulted in heating of the gastropod-bearing limestone horizon 36 m below the contact to peak temperatures of 150-180℃ within decades, and elevated temperatures persisted for at least 104 years. Within ~10 years of the basalt emplacement shell aragonite was rapidly replaced by calcite at temperatures of 69-87ºC in the presence of fluid. Clear, euhedral, sparry calcite cements were precipitated beneath the water table over an extended period of time. Cements recording temperatures of 43 and 53ºC filled gastropod chambers within 2.6 kyr following the basalt flow, although it is unclear whether they occurred before or after conversion of the gastropod shells from aragonite to calcite. A third generation of cement was precipitated in chambers and in fractures within gastropod shell DB4 at 20ºC. Assuming the shell microfractures (Fig. 2e) occurred in response to volume change during the aragonite-calcite phase transition, this low-temperature cement must have precipitated long after the thermal perturbation when temperatures in the country rock had returned to ambient conditions. Primary micrite and calcified shell Δ47 signals recorded within decades of the basalt emplacement resisted resetting during peak heating to temperatures of 150-180ºC and late-stage fluid circulation.

4.7 References

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6. Appendix

On the following pages I have attached the data of the isotopic model – open vs. closed system. Every iteration (10 for 1 degree Celsius) represents one step in the isotopic reaction. The equation follows the work of Banner & Hanson.

Banner & Hansen 1990 GCA v 54, 3123-3137

Constants:

density_water=	1		FWcalcite=	100,09	
density_calcite=	2,71		FWwater=	18,0153	
Porosity=	0,05	guess	W/R(wt%)=	0,01	eqn 8
F=	0,019	eqn 4	W/R(molar)=	0,06	eqn 9
F=	0,010	guess			
CI_Ocalcite=	0,4796	CaCO3			
CI_Owater=	0,8881	H2O			
C_Osystem=	0,4836	eqn 3			
d18Owater,I=	-15,0	smow, guess from modern values			
d18Ocalcite,I=	16	smow, measured			
T(C)=	75				
alpha(T)=	1,0195796	Kim & Oneil 1997	W/R (wt F		
d18Osystem=	15,43	eqn 24	0,01	0,01	
d18Owater=	-18,56	eqn 27	0,1	0,09	
d18Ocalcite=	15,788954	eqn 25	0,3	0,23	
			0,5	0,33	
			1	0,50	

CLOSED SYSTEM:

HEATING T (C)	const C_Ocalcite=	const C_Owater=	const C_Osystem=	f(T) alpha(T)=	const eqn 24 δ8Osystem	eqn 27 heating δ18Owater=	eqn 25 heating δ18Ocalcite	Cooling T (C)	CLOSED SYSTEM: const C_Ocalcite=	const C_Owater=	const C_Osystem=	f(T) alpha(T)=	const eqn 24 δ8Osystem	eqn 27 heating δ18Owater=	eqn 25 heating δ18Ocalcite=
0	0,4796	0,8881	0,4836	1,0342	15,04	-15,0000	16	100	0,4796	0,8881	0,4836	1,016045	15,04	-15,0000	16
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5068	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5558	15,5
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5077	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5561	15,5
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5086	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5564	15,5
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5095	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5567	15,5
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5104	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5570	15,5
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5114	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5573	15,5
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5123	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5576	15,5
0	0,4796	0,8881	0,4836	1,0342	15,04	-17,5132	16,1	100	0,4796	0,8881	0,4836	1,016045	15,04	-0,5580	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2851	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6837	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2860	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6840	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2869	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6844	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2878	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6847	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2887	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6850	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2896	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6853	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2905	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6856	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2914	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6860	15,5
1	0,4796	0,8881	0,4836	1,03395	15,04	-17,2923	16,1	99	0,4796	0,8881	0,4836	1,016177	15,04	-0,6863	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0658	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8128	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0667	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8131	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0676	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8134	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0685	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8137	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0694	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8141	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0703	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8144	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0712	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8147	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0721	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8150	15,5
2	0,4796	0,8881	0,4836	1,0337	15,04	-17,0730	16,1	98	0,4796	0,8881	0,4836	1,01631	15,04	-0,8153	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8480	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9425	15,5

3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8489	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9429	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8498	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9432	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8507	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9435	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8515	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9438	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8524	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9442	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8533	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9445	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8542	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9448	15,5
3	0,4796	0,8881	0,4836	1,03345	15,04	-16,8551	16,0	97	0,4796	0,8881	0,4836	1,016443	15,04	-0,9452	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6316	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0731	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6325	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0734	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6334	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0737	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6342	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0741	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6351	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0744	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6360	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0747	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6369	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0751	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6377	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0754	15,5
4	0,4796	0,8881	0,4836	1,03321	15,04	-16,6386	16,0	96	0,4796	0,8881	0,4836	1,016578	15,04	-1,0757	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4166	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2043	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4175	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2047	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4184	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2050	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4192	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2054	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4201	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2057	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4210	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2060	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4218	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2064	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4227	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2067	15,5
5	0,4796	0,8881	0,4836	1,03297	15,04	-16,4236	16,0	95	0,4796	0,8881	0,4836	1,016713	15,04	-1,2070	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2031	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3364	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2039	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3367	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2048	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3371	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2056	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3374	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2065	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3378	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2074	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3381	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2082	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3384	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2091	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3388	15,5
6	0,4796	0,8881	0,4836	1,03273	15,04	-16,2099	16,0	94	0,4796	0,8881	0,4836	1,016848	15,04	-1,3391	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9909	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4692	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9917	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4696	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9926	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4699	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9934	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4703	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9943	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4706	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9951	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4710	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9960	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4713	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9969	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4716	15,5
7	0,4796	0,8881	0,4836	1,03249	15,04	-15,9977	16,0	93	0,4796	0,8881	0,4836	1,016985	15,04	-1,4720	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7801	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6028	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7809	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6032	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7818	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6035	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7826	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6039	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7835	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6042	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7843	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6046	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7852	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6049	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7860	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6053	15,5
8	0,4796	0,8881	0,4836	1,03225	15,04	-15,7868	16,0	92	0,4796	0,8881	0,4836	1,017122	15,04	-1,6056	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5707	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7372	15,5

9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5715	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7376	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5723	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7379	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5732	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7383	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5740	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7386	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5748	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7390	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5757	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7393	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5765	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7397	15,5
9	0,4796	0,8881	0,4836	1,03202	15,04	-15,5774	15,9	91	0,4796	0,8881	0,4836	1,01726	15,04	-1,7400	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3626	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8724	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3634	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8727	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3642	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8731	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3651	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8734	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3659	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8738	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3667	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8742	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3676	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8745	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3684	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8749	15,5
10	0,4796	0,8881	0,4836	1,03178	15,04	-15,3692	15,9	90	0,4796	0,8881	0,4836	1,017399	15,04	-1,8752	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1558	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0083	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1567	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0087	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1575	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0091	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1583	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0094	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1591	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0098	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1600	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0102	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1608	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0105	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1616	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0109	15,5
11	0,4796	0,8881	0,4836	1,03155	15,04	-15,1624	15,9	89	0,4796	0,8881	0,4836	1,017539	15,04	-2,0112	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9504	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1451	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9512	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1455	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9521	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1458	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9529	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1462	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9537	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1466	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9545	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1469	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9553	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1473	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9561	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1477	15,5
12	0,4796	0,8881	0,4836	1,03132	15,04	-14,9569	15,9	88	0,4796	0,8881	0,4836	1,017679	15,04	-2,1481	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7463	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2827	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7471	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2831	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7479	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2834	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7487	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2838	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7496	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2842	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7504	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2845	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7512	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2849	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7520	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2853	15,5
13	0,4796	0,8881	0,4836	1,0311	15,04	-14,7528	15,9	87	0,4796	0,8881	0,4836	1,01782	15,04	-2,2857	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5435	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4211	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5443	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4214	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5451	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4218	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5459	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4222	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5467	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4226	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5475	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4230	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5483	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4233	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5491	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4237	15,5
14	0,4796	0,8881	0,4836	1,03087	15,04	-14,5499	15,9	86	0,4796	0,8881	0,4836	1,017962	15,04	-2,4241	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3420	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5603	15,5

15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3428	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5607	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3436	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5610	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3444	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5614	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3452	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5618	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3460	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5622	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3467	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5626	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3475	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5630	15,5
15	0,4796	0,8881	0,4836	1,03064	15,04	-14,3483	15,9	85	0,4796	0,8881	0,4836	1,018105	15,04	-2,5633	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1417	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7003	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1425	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7007	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1433	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7011	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1441	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7015	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1449	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7019	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1457	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7023	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1465	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7026	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1472	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7030	15,5
16	0,4796	0,8881	0,4836	1,03042	15,04	-14,1480	15,8	84	0,4796	0,8881	0,4836	1,018249	15,04	-2,7034	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9428	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8412	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9435	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8416	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9443	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8420	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9451	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8424	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9459	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8428	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9466	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8432	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9474	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8435	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9482	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8439	15,5
17	0,4796	0,8881	0,4836	1,0302	15,04	-13,9490	15,8	83	0,4796	0,8881	0,4836	1,018393	15,04	-2,8443	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7450	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9829	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7458	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9833	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7465	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9837	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7473	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9841	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7481	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9845	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7489	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9849	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7496	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9853	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7504	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9857	15,5
18	0,4796	0,8881	0,4836	1,02998	15,04	-13,7512	15,8	82	0,4796	0,8881	0,4836	1,018538	15,04	-2,9861	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5485	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1255	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5493	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1259	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5500	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1263	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5508	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1267	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5515	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1271	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5523	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1275	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5531	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1279	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5538	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1283	15,5
19	0,4796	0,8881	0,4836	1,02976	15,04	-13,5546	15,8	81	0,4796	0,8881	0,4836	1,018685	15,04	-3,1287	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3532	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2689	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3540	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2693	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3547	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2697	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3555	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2701	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3562	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2705	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3570	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2709	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3577	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2713	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3585	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2717	15,5
20	0,4796	0,8881	0,4836	1,02954	15,04	-13,3592	15,8	80	0,4796	0,8881	0,4836	1,018832	15,04	-3,2721	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1591	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4132	15,5

21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1599	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4136	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1606	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4140	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1614	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4144	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1621	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4148	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1629	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4152	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1636	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4156	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1644	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4161	15,5
21	0,4796	0,8881	0,4836	1,02933	15,04	-13,1651	15,8	79	0,4796	0,8881	0,4836	1,018979	15,04	-3,4165	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9662	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5583	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9670	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5587	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9677	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5592	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9685	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5596	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9692	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5600	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9699	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5604	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9707	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5608	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9714	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5612	15,5
22	0,4796	0,8881	0,4836	1,02911	15,04	-12,9722	15,8	78	0,4796	0,8881	0,4836	1,019128	15,04	-3,5617	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7745	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7044	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7753	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7048	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7760	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7052	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7767	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7056	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7775	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7060	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7782	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7065	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7789	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7069	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7797	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7073	15,5
23	0,4796	0,8881	0,4836	1,0289	15,04	-12,7804	15,8	77	0,4796	0,8881	0,4836	1,019278	15,04	-3,7077	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5840	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8513	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5847	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8517	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5855	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8521	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5862	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8526	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5869	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8530	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5876	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8534	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5884	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8538	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5891	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8543	15,5
24	0,4796	0,8881	0,4836	1,02869	15,04	-12,5898	15,7	76	0,4796	0,8881	0,4836	1,019428	15,04	-3,8547	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3946	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-3,9991	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3953	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-3,9995	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3961	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-3,9999	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3968	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-4,0004	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3975	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-4,0008	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3982	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-4,0012	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3990	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-4,0017	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,3997	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-4,0021	15,5
25	0,4796	0,8881	0,4836	1,02848	15,04	-12,4004	15,7	75	0,4796	0,8881	0,4836	1,01958	15,04	-4,0025	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2064	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1478	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2071	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1482	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2078	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1487	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2086	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1491	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2093	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1495	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2100	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1500	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2107	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1504	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2114	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1508	15,5
26	0,4796	0,8881	0,4836	1,02827	15,04	-12,2121	15,7	74	0,4796	0,8881	0,4836	1,019732	15,04	-4,1513	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0193	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,2974	15,5

27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0200	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,2978	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0207	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,2983	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0215	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,2987	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0222	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,2992	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0229	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,2996	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0236	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,3000	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0243	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,3005	15,5
27	0,4796	0,8881	0,4836	1,02807	15,04	-12,0250	15,7	73	0,4796	0,8881	0,4836	1,019885	15,04	-4,3009	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8334	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4479	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8341	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4484	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8348	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4488	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8355	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4493	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8362	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4497	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8369	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4501	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8376	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4506	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8383	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4510	15,5
28	0,4796	0,8881	0,4836	1,02786	15,04	-11,8390	15,7	72	0,4796	0,8881	0,4836	1,020039	15,04	-4,4515	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6486	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,5994	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6492	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,5998	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6499	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,6003	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6506	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,6007	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6513	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,6012	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6520	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,6016	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6527	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,6021	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6534	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,6025	15,5
29	0,4796	0,8881	0,4836	1,02766	15,04	-11,6541	15,7	71	0,4796	0,8881	0,4836	1,020194	15,04	-4,6030	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4648	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7517	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4655	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7522	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4662	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7526	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4669	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7531	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4676	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7536	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4683	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7540	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4689	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7545	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4696	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7549	15,5
30	0,4796	0,8881	0,4836	1,02746	15,04	-11,4703	15,7	70	0,4796	0,8881	0,4836	1,02035	15,04	-4,7554	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2822	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9051	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2829	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9055	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2836	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9060	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2842	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9064	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2849	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9069	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2856	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9074	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2863	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9078	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2870	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9083	15,5
31	0,4796	0,8881	0,4836	1,02725	15,04	-11,2876	15,7	69	0,4796	0,8881	0,4836	1,020507	15,04	-4,9087	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1007	15,7	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0593	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1013	15,7	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0598	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1020	15,7	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0602	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1027	15,7	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0607	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1033	15,7	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0612	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1040	15,6	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0616	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1047	15,6	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0621	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1054	15,6	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0626	15,5
32	0,4796	0,8881	0,4836	1,02705	15,04	-11,1060	15,6	68	0,4796	0,8881	0,4836	1,020665	15,04	-5,0630	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9202	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2145	15,5

33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9209	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2150	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9215	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2155	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9222	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2159	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9229	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2164	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9235	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2169	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9242	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2173	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9249	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2178	15,5
33	0,4796	0,8881	0,4836	1,02686	15,04	-10,9255	15,6	67	0,4796	0,8881	0,4836	1,020823	15,04	-5,2183	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7408	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3707	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7414	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3712	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7421	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3716	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7428	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3721	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7434	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3726	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7441	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3731	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7447	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3735	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7454	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3740	15,5
34	0,4796	0,8881	0,4836	1,02666	15,04	-10,7461	15,6	66	0,4796	0,8881	0,4836	1,020983	15,04	-5,3745	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5624	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5278	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5631	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5283	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5637	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5288	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5644	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5293	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5650	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5298	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5657	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5302	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5664	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5307	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5670	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5312	15,5
35	0,4796	0,8881	0,4836	1,02646	15,04	-10,5677	15,6	65	0,4796	0,8881	0,4836	1,021144	15,04	-5,5317	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3851	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6860	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3858	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6864	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3864	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6869	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3871	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6874	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3877	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6879	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3884	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6884	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3890	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6889	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3897	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6894	15,5
36	0,4796	0,8881	0,4836	1,02627	15,04	-10,3903	15,6	64	0,4796	0,8881	0,4836	1,021305	15,04	-5,6898	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2089	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8451	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2095	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8456	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2101	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8460	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2108	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8465	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2114	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8470	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2121	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8475	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2127	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8480	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2133	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8485	15,5
37	0,4796	0,8881	0,4836	1,02608	15,04	-10,2140	15,6	63	0,4796	0,8881	0,4836	1,021468	15,04	-5,8490	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0336	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0052	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0342	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0057	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0349	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0062	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0355	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0067	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0362	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0072	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0368	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0076	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0374	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0081	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0381	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0086	15,5
38	0,4796	0,8881	0,4836	1,02588	15,04	-10,0387	15,6	62	0,4796	0,8881	0,4836	1,021632	15,04	-6,0091	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8594	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1663	15,5

39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8600	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1668	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8606	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1673	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8613	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1678	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8619	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1683	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8625	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1688	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8632	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1693	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8638	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1698	15,5
39	0,4796	0,8881	0,4836	1,02569	15,04	-9,8644	15,6	61	0,4796	0,8881	0,4836	1,021796	15,04	-6,1703	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6862	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3284	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6868	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3289	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6874	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3294	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6880	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3299	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6886	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3304	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6893	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3309	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6899	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3314	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6905	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3319	15,5
40	0,4796	0,8881	0,4836	1,0255	15,04	-9,6911	15,6	60	0,4796	0,8881	0,4836	1,021962	15,04	-6,3324	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5139	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4915	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5146	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4920	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5152	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4926	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5158	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4931	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5164	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4936	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5170	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4941	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5176	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4946	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5182	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4951	15,5
41	0,4796	0,8881	0,4836	1,02532	15,04	-9,5189	15,6	59	0,4796	0,8881	0,4836	1,022129	15,04	-6,4956	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3427	15,6	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6557	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3433	15,6	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6562	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3439	15,5	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6567	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3445	15,5	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6573	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3451	15,5	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6578	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3457	15,5	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6583	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3464	15,5	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6588	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3470	15,5	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6593	15,5
42	0,4796	0,8881	0,4836	1,02513	15,04	-9,3476	15,5	58	0,4796	0,8881	0,4836	1,022296	15,04	-6,6598	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1724	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8209	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1730	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8214	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1736	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8220	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1742	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8225	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1748	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8230	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1755	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8235	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1761	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8240	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1767	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8246	15,5
43	0,4796	0,8881	0,4836	1,02494	15,04	-9,1773	15,5	57	0,4796	0,8881	0,4836	1,022465	15,04	-6,8251	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0031	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9872	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0037	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9877	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0043	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9882	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0049	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9888	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0055	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9893	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0061	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9898	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0067	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9903	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0073	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9909	15,5
44	0,4796	0,8881	0,4836	1,02476	15,04	-9,0079	15,5	56	0,4796	0,8881	0,4836	1,022635	15,04	-6,9914	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8348	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1545	15,5

45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8354	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1550	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8360	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1556	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8366	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1561	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8372	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1566	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8378	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1572	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8384	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1577	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8390	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1582	15,5
45	0,4796	0,8881	0,4836	1,02458	15,04	-8,8395	15,5	55	0,4796	0,8881	0,4836	1,022806	15,04	-7,1588	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6674	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3229	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6680	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3234	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6686	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3239	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6692	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3245	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6698	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3250	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6704	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3256	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6709	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3261	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6715	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3266	15,5
46	0,4796	0,8881	0,4836	1,02439	15,04	-8,6721	15,5	54	0,4796	0,8881	0,4836	1,022978	15,04	-7,3272	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5010	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4923	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5016	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4929	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5022	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4934	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5027	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4940	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5033	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4945	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5039	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4950	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5045	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4956	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5050	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4961	15,5
47	0,4796	0,8881	0,4836	1,02421	15,04	-8,5056	15,5	53	0,4796	0,8881	0,4836	1,023151	15,04	-7,4967	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3355	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6629	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3361	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6634	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3366	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6640	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3372	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6645	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3378	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6651	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3384	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6656	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3389	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6662	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3395	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6667	15,5
48	0,4796	0,8881	0,4836	1,02403	15,04	-8,3401	15,5	52	0,4796	0,8881	0,4836	1,023325	15,04	-7,6673	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1709	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8345	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1715	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8351	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1721	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8356	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1726	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8362	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1732	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8367	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1738	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8373	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1743	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8378	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1749	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8384	15,5
49	0,4796	0,8881	0,4836	1,02385	15,04	-8,1755	15,5	51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8390	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0073	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0073	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0078	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0078	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0084	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0084	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0089	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0089	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0095	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0095	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0101	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0101	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0106	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0106	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0112	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0112	15,5
50	0,4796	0,8881	0,4836	1,02368	15,04	-8,0117	15,5	50	0,4796	0,8881	0,4836	1,023676	15,04	-8,0117	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8445	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1811	15,5

51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8451	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1817	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8456	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1823	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8462	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1828	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8467	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1834	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8473	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1840	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8478	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1845	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8484	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1851	15,5
51	0,4796	0,8881	0,4836	1,0235	15,04	-7,8490	15,5	49	0,4796	0,8881	0,4836	1,023854	15,04	-8,1857	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6827	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3561	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6832	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3567	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6838	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3573	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6843	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3578	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6849	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3584	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6854	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3590	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6860	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3595	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6865	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3601	15,5
52	0,4796	0,8881	0,4836	1,02332	15,04	-7,6871	15,5	48	0,4796	0,8881	0,4836	1,024032	15,04	-8,3607	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5217	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5322	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5222	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5328	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5228	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5334	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5233	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5340	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5239	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5345	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5244	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5351	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5250	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5357	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5255	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5363	15,5
53	0,4796	0,8881	0,4836	1,02315	15,04	-7,5261	15,5	47	0,4796	0,8881	0,4836	1,024212	15,04	-8,5369	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3616	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7095	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3622	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7101	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3627	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7107	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3632	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7113	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3638	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7118	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3643	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7124	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3649	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7130	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3654	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7136	15,5
54	0,4796	0,8881	0,4836	1,02298	15,04	-7,3659	15,4	46	0,4796	0,8881	0,4836	1,024393	15,04	-8,7142	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2024	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8879	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2030	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8885	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2035	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8891	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2040	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8897	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2046	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8903	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2051	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8909	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2056	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8915	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2062	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8921	15,5
55	0,4796	0,8881	0,4836	1,02281	15,04	-7,2067	15,4	45	0,4796	0,8881	0,4836	1,024575	15,04	-8,8926	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0441	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0675	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0446	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0681	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0452	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0687	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0457	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0693	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0462	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0699	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0467	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0705	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0473	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0711	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0478	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0717	15,5
56	0,4796	0,8881	0,4836	1,02263	15,04	-7,0483	15,4	44	0,4796	0,8881	0,4836	1,024758	15,04	-9,0723	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8866	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2483	15,5

57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8872	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2489	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8877	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2495	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8882	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2501	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8887	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2507	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8893	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2513	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8898	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2519	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8903	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2525	15,5
57	0,4796	0,8881	0,4836	1,02246	15,04	-6,8908	15,4	43	0,4796	0,8881	0,4836	1,024943	15,04	-9,2531	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7300	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4302	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7306	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4309	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7311	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4315	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7316	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4321	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7321	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4327	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7326	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4333	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7331	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4339	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7336	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4345	15,5
58	0,4796	0,8881	0,4836	1,0223	15,04	-6,7342	15,4	42	0,4796	0,8881	0,4836	1,025129	15,04	-9,4351	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5743	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6134	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5748	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6140	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5753	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6146	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5758	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6152	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5763	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6159	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5768	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6165	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5773	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6171	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5778	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6177	15,5
59	0,4796	0,8881	0,4836	1,02213	15,04	-6,5783	15,4	41	0,4796	0,8881	0,4836	1,025316	15,04	-9,6183	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4193	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,7978	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4199	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,7984	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4204	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,7990	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4209	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,7996	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4214	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,8002	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4219	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,8009	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4224	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,8015	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4229	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,8021	15,5
60	0,4796	0,8881	0,4836	1,02196	15,04	-6,4234	15,4	40	0,4796	0,8881	0,4836	1,025504	15,04	-9,8027	15,5
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2653	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9834	15,5
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2658	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9840	15,5
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2663	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9846	15,5
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2668	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9852	15,5
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2672	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9859	15,5
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2677	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9865	15,4
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2682	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9871	15,4
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2687	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9877	15,4
61	0,4796	0,8881	0,4836	1,0218	15,04	-6,2692	15,4	39	0,4796	0,8881	0,4836	1,025693	15,04	-9,9884	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1120	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1702	15,5
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1125	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1708	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1130	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1714	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1135	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1721	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1140	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1727	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1145	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1733	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1149	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1740	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1154	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1746	15,4
62	0,4796	0,8881	0,4836	1,02163	15,04	-6,1159	15,4	38	0,4796	0,8881	0,4836	1,025884	15,04	-10,1752	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9595	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3583	15,4

63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9600	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3589	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9605	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3595	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9610	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3602	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9615	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3608	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9620	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3614	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9625	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3621	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9629	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3627	15,4
63	0,4796	0,8881	0,4836	1,02147	15,04	-5,9634	15,4	37	0,4796	0,8881	0,4836	1,026075	15,04	-10,3633	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8079	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5476	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8084	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5482	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8089	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5489	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8093	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5495	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8098	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5501	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8103	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5508	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8108	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5514	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8113	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5521	15,4
64	0,4796	0,8881	0,4836	1,02131	15,04	-5,8117	15,4	36	0,4796	0,8881	0,4836	1,026269	15,04	-10,5527	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6571	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7382	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6575	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7388	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6580	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7395	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6585	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7401	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6590	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7408	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6594	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7414	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6599	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7421	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6604	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7427	15,4
65	0,4796	0,8881	0,4836	1,02114	15,04	-5,6609	15,4	35	0,4796	0,8881	0,4836	1,026463	15,04	-10,7434	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5070	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9300	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5075	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9307	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5080	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9314	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5084	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9320	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5089	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9327	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5094	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9333	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5098	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9340	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5103	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9346	15,4
66	0,4796	0,8881	0,4836	1,02098	15,04	-5,5108	15,4	34	0,4796	0,8881	0,4836	1,026659	15,04	-10,9353	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3578	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1232	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3582	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1239	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3587	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1245	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3592	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1252	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3596	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1258	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3601	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1265	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3606	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1272	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3610	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1278	15,4
67	0,4796	0,8881	0,4836	1,02082	15,04	-5,3615	15,4	33	0,4796	0,8881	0,4836	1,026856	15,04	-11,1285	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2093	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3177	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2097	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3183	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2102	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3190	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2107	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3197	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2111	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3203	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2116	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3210	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2120	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3217	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2125	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3223	15,4
68	0,4796	0,8881	0,4836	1,02066	15,04	-5,2130	15,3	32	0,4796	0,8881	0,4836	1,027054	15,04	-11,3230	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0616	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5135	15,4

69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0620	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5141	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0625	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5148	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0630	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5155	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0634	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5162	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0639	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5168	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0643	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5175	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0648	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5182	15,4
69	0,4796	0,8881	0,4836	1,02051	15,04	-5,0652	15,3	31	0,4796	0,8881	0,4836	1,027254	15,04	-11,5188	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9147	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7106	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9151	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7113	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9156	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7119	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9160	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7126	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9165	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7133	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9169	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7140	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9174	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7146	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9178	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7153	15,4
70	0,4796	0,8881	0,4836	1,02035	15,04	-4,9183	15,3	30	0,4796	0,8881	0,4836	1,027455	15,04	-11,7160	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7685	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9090	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7689	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9097	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7694	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9104	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7698	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9111	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7703	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9118	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7707	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9125	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7712	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9131	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7716	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9138	15,4
71	0,4796	0,8881	0,4836	1,02019	15,04	-4,7721	15,3	29	0,4796	0,8881	0,4836	1,027658	15,04	-11,9145	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6231	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1088	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6235	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1095	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6240	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1102	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6244	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1109	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6248	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1116	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6253	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1123	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6257	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1130	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6262	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1137	15,4
72	0,4796	0,8881	0,4836	1,02004	15,04	-4,6266	15,3	28	0,4796	0,8881	0,4836	1,027861	15,04	-12,1144	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4784	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3100	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4789	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3107	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4793	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3114	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4797	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3121	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4802	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3128	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4806	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3135	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4810	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3142	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4815	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3149	15,4
73	0,4796	0,8881	0,4836	1,01988	15,04	-4,4819	15,3	27	0,4796	0,8881	0,4836	1,028067	15,04	-12,3156	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3345	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5126	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3349	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5133	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3354	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5140	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3358	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5147	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3362	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5154	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3367	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5161	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3371	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5168	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3375	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5175	15,4
74	0,4796	0,8881	0,4836	1,01973	15,04	-4,3380	15,3	26	0,4796	0,8881	0,4836	1,028273	15,04	-12,5182	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1913	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7165	15,4

75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1918	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7172	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1922	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7180	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1926	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7187	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1930	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7194	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1935	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7201	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1939	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7208	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1943	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7215	15,4
75	0,4796	0,8881	0,4836	1,01958	15,04	-4,1947	15,3	25	0,4796	0,8881	0,4836	1,028481	15,04	-12,7222	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0489	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9219	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0493	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9226	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0497	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9233	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0501	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9240	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0506	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9248	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0510	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9255	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0514	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9262	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0518	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9269	15,4
76	0,4796	0,8881	0,4836	1,01943	15,04	-4,0522	15,3	24	0,4796	0,8881	0,4836	1,028691	15,04	-12,9276	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9072	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1287	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9076	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1294	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9080	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1301	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9084	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1309	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9088	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1316	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9092	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1323	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9097	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1330	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9101	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1337	15,4
77	0,4796	0,8881	0,4836	1,01928	15,04	-3,9105	15,3	23	0,4796	0,8881	0,4836	1,028902	15,04	-13,1345	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7662	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3369	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7666	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3376	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7670	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3384	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7674	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3391	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7678	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3398	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7682	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3405	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7686	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3413	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7690	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3420	15,4
78	0,4796	0,8881	0,4836	1,01913	15,04	-3,7694	15,3	22	0,4796	0,8881	0,4836	1,029114	15,04	-13,3427	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6259	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5466	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6263	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5473	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6267	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5480	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6271	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5488	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6275	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5495	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6279	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5503	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6283	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5510	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6287	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5517	15,4
79	0,4796	0,8881	0,4836	1,01898	15,04	-3,6291	15,3	21	0,4796	0,8881	0,4836	1,029328	15,04	-13,5525	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4863	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7577	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4867	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7584	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4871	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7592	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4875	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7599	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4879	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7607	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4883	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7614	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4887	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7622	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4891	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7629	15,4
80	0,4796	0,8881	0,4836	1,01883	15,04	-3,4895	15,3	20	0,4796	0,8881	0,4836	1,029544	15,04	-13,7636	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3474	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9703	15,4

81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3478	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9711	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3482	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9718	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3486	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9726	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3490	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9733	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3494	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9741	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3498	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9748	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3502	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9756	15,4
81	0,4796	0,8881	0,4836	1,01868	15,04	-3,3506	15,3	19	0,4796	0,8881	0,4836	1,029761	15,04	-13,9763	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2092	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1844	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2096	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1852	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2100	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1859	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2104	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1867	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2108	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1874	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2112	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1882	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2116	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1890	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2119	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1897	15,4
82	0,4796	0,8881	0,4836	1,01854	15,04	-3,2123	15,3	18	0,4796	0,8881	0,4836	1,029979	15,04	-14,1905	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0717	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4000	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0721	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4008	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0725	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4016	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0729	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4023	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0733	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4031	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0736	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4038	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0740	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4046	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0744	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4054	15,4
83	0,4796	0,8881	0,4836	1,01839	15,04	-3,0748	15,3	17	0,4796	0,8881	0,4836	1,030199	15,04	-14,4061	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9349	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6172	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9353	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6179	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9357	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6187	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9360	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6195	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9364	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6202	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9368	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6210	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9372	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6218	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9376	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6226	15,4
84	0,4796	0,8881	0,4836	1,01825	15,04	-2,9379	15,3	16	0,4796	0,8881	0,4836	1,030421	15,04	-14,6233	15,4
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,7988	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8358	15,4
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,7992	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8366	15,4
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,7995	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8374	15,4
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,7999	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8382	15,4
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,8003	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8389	15,4
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,8006	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8397	15,3
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,8010	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8405	15,3
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,8014	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8413	15,3
85	0,4796	0,8881	0,4836	1,01811	15,04	-2,8018	15,3	15	0,4796	0,8881	0,4836	1,030644	15,04	-14,8420	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6633	15,3	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0561	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6637	15,3	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0569	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6641	15,3	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0576	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6644	15,2	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0584	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6648	15,2	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0592	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6652	15,2	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0600	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6655	15,2	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0608	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6659	15,2	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0615	15,3
86	0,4796	0,8881	0,4836	1,01796	15,04	-2,6663	15,2	14	0,4796	0,8881	0,4836	1,030869	15,04	-15,0623	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5285	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2779	15,3

87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5289	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2787	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5292	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2794	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5296	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2802	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5300	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2810	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5303	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2818	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5307	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2826	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5311	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2834	15,3
87	0,4796	0,8881	0,4836	1,01782	15,04	-2,5314	15,2	13	0,4796	0,8881	0,4836	1,031096	15,04	-15,2842	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3944	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5013	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3947	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5020	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3951	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5028	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3955	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5036	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3958	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5044	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3962	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5052	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3965	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5060	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3969	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5068	15,3
88	0,4796	0,8881	0,4836	1,01768	15,04	-2,3973	15,2	12	0,4796	0,8881	0,4836	1,031324	15,04	-15,5076	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2609	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7262	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2613	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7270	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2616	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7278	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2620	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7286	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2623	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7294	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2627	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7302	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2630	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7311	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2634	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7319	15,3
89	0,4796	0,8881	0,4836	1,01754	15,04	-2,2638	15,2	11	0,4796	0,8881	0,4836	1,031553	15,04	-15,7327	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1281	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9528	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1284	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9536	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1288	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9545	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1291	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9553	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1295	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9561	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1298	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9569	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1302	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9577	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1305	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9585	15,3
90	0,4796	0,8881	0,4836	1,0174	15,04	-2,1309	15,2	10	0,4796	0,8881	0,4836	1,031785	15,04	-15,9593	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9959	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1811	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9962	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1819	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9966	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1827	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9969	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1835	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9973	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1843	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9976	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1852	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9980	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1860	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9983	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1868	15,3
91	0,4796	0,8881	0,4836	1,01726	15,04	-1,9987	15,2	9	0,4796	0,8881	0,4836	1,032018	15,04	-16,1876	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8644	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4110	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8647	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4118	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8650	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4126	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8654	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4134	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8657	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4143	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8661	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4151	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8664	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4159	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8668	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4167	15,3
92	0,4796	0,8881	0,4836	1,01712	15,04	-1,8671	15,2	8	0,4796	0,8881	0,4836	1,032253	15,04	-16,4175	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7335	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6425	15,3

93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7338	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6433	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7341	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6442	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7345	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6450	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7348	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6458	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7351	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6467	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7355	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6475	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7358	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6483	15,3
93	0,4796	0,8881	0,4836	1,01698	15,04	-1,7362	15,2	7	0,4796	0,8881	0,4836	1,032489	15,04	-16,6492	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6032	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8758	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6035	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8766	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6038	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8774	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6042	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8783	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6045	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8791	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6048	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8799	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6052	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8808	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6055	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8816	15,3
94	0,4796	0,8881	0,4836	1,01685	15,04	-1,6058	15,2	6	0,4796	0,8881	0,4836	1,032728	15,04	-16,8825	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4735	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1107	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4739	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1115	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4742	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1124	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4745	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1132	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4748	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1141	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4752	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1149	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4755	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1158	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4758	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1166	15,3
95	0,4796	0,8881	0,4836	1,01671	15,04	-1,4762	15,2	5	0,4796	0,8881	0,4836	1,032968	15,04	-17,1175	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3445	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3474	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3448	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3482	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3452	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3491	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3455	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3499	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3458	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3508	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3461	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3516	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3465	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3525	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3468	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3533	15,3
96	0,4796	0,8881	0,4836	1,01658	15,04	-1,3471	15,2	4	0,4796	0,8881	0,4836	1,03321	15,04	-17,3542	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2161	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5858	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2164	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5866	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2167	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5875	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2171	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5883	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2174	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5892	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2177	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5901	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2180	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5909	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2183	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5918	15,3
97	0,4796	0,8881	0,4836	1,01644	15,04	-1,2187	15,2	3	0,4796	0,8881	0,4836	1,033453	15,04	-17,5926	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0883	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8259	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0886	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8268	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0889	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8276	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0892	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8285	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0896	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8294	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0899	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8302	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0902	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8311	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0905	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8320	15,3
98	0,4796	0,8881	0,4836	1,01631	15,04	-1,0908	15,2	2	0,4796	0,8881	0,4836	1,033699	15,04	-17,8328	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9611	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0678	15,3

99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9614	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0687	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9617	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0696	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9620	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0705	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9623	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0713	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9627	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0722	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9630	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0731	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9633	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0740	15,3
99	0,4796	0,8881	0,4836	1,01618	15,04	-0,9636	15,2	1	0,4796	0,8881	0,4836	1,033946	15,04	-18,0748	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8345	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3116	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8348	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3125	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8351	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3133	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8354	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3142	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8357	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3151	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8360	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3160	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8363	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3169	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8367	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3177	15,3
100	0,4796	0,8881	0,4836	1,01605	15,04	-0,8370	15,2	0	0,4796	0,8881	0,4836	1,034196	15,04	-18,3186	15,3

Constants:

ity_water=	1		FWcalcite=	100,09	
ty_calcite=	2,71		FWwater=	18,01534	
Porosity=	0,05	guess	W/R(wt%)=	0,01	eqn 8
F=	0,019	eqn 4	/R(molar)=	0,06	eqn 9
F=	0,010	guess			
_Ocalcite=	0,4796	CaCO3			
I_Owater=	0,8881	H2O			
_Osystem=	0,4836	eqn 3			
3Owater,I=	-10,0	smow, guess from modern values			
Ocalcite,I=	16	smow, measured			
T(C)=	75				
alpha(T)=	1,0195796	Kim & Oneil 1997	W/R (wt%)	F	
3Osystem=	15,52	eqn 24	0,01	0,01	
18Owater=	-18,56	eqn 27	0,1	0,09	
.8Ocalcite=	15,8808	eqn 25	0,3	0,23	
			0,5	0,33	
			1	0,50	

Open SYSTEM: HEATING T (C)	const C_Ocalcite=	const C_Owater=	const C_Osystem=	f(T) alpha(T)=	const eqn 24 18Osystem	eqn 27 heating d18Owater=	eqn 25 heating 18Ocalcite	Open SYSTEM: Cooling T (C)	const C_Ocalcite=	const C_Owater=	const C_Osystem	f(T) alpha(T)=	const eqn 24 18Osystem	eqn 27 cooling d18Owater=	eqn 25 cooling I18Ocalcite=
0	0,4796	0,8881	0,4875	1,03419563	15,08	-10,0000	16	100	0,4796	0,8881	0,4875	1,016045165	15,08	-10,0000	16
0	0,4796	0,8881	0,4954	1,03419563	15,96	-10,0000	17,2	100	0,4796	0,8881	0,4954	1,016045165	14,74	-10,0000	15,9
0	0,4796	0,8881	0,5034	1,03419563	16,87	-10,0000	19,2	100	0,4796	0,8881	0,5034	1,016045165	14,05	-10,0000	16,1
0	0,4796	0,8881	0,5113	1,03419563	17,68	-10,0000	21,2	100	0,4796	0,8881	0,5113	1,016045165	13,05	-10,0000	15,9
0	0,4796	0,8881	0,5192	1,03419563	18,29	-10,0000	23,0	100	0,4796	0,8881	0,5192	1,016045165	11,80	-10,0000	15,4
0	0,4796	0,8881	0,5272	1,03419563	18,62	-10,0000	24,7	100	0,4796	0,8881	0,5272	1,016045165	10,39	-10,0000	14,6
0	0,4796	0,8881	0,5351	1,03419563	18,65	-10,0000	26,0	100	0,4796	0,8881	0,5351	1,016045165	8,91	-10,0000	13,7
0	0,4796	0,8881	0,5430	1,03419563	18,39	-10,0000	27,0	100	0,4796	0,8881	0,5430	1,016045165	7,43	-10,0000	12,6
0	0,4796	0,8881	0,5510	1,03419563	17,86	-10,0000	27,7	100	0,4796	0,8881	0,5510	1,016045165	6,02	-10,0000	11,6
1	0,4796	0,8881	0,5589	1,03394638	17,06	-10,0000	28,0	99	0,4796	0,8881	0,5589	1,016177199	4,76	-10,0000	10,6
1	0,4796	0,8881	0,5668	1,03394638	16,13	-10,0000	28,1	99	0,4796	0,8881	0,5668	1,016177199	3,63	-10,0000	9,8
1	0,4796	0,8881	0,5748	1,03394638	15,11	-10,0000	28,1	99	0,4796	0,8881	0,5748	1,016177199	2,64	-10,0000	9,1
1	0,4796	0,8881	0,5827	1,03394638	14,05	-10,0000	27,9	99	0,4796	0,8881	0,5827	1,016177199	1,79	-10,0000	8,5
1	0,4796	0,8881	0,5906	1,03394638	12,99	-10,0000	27,7	99	0,4796	0,8881	0,5906	1,016177199	1,05	-10,0000	8,0
1	0,4796	0,8881	0,5986	1,03394638	11,95	-10,0000	27,4	99	0,4796	0,8881	0,5986	1,016177199	0,41	-10,0000	7,6
1	0,4796	0,8881	0,6065	1,03394638	10,94	-10,0000	27,1	99	0,4796	0,8881	0,6065	1,016177199	-0,15	-10,0000	7,3
1	0,4796	0,8881	0,6144	1,03394638	9,97	-10,0000	26,9	99	0,4796	0,8881	0,6144	1,016177199	-0,65	-10,0000	7,1
1	0,4796	0,8881	0,6224	1,03394638	9,05	-10,0000	26,7	99	0,4796	0,8881	0,6224	1,016177199	-1,10	-10,0000	7,0
2	0,4796	0,8881	0,6303	1,03369901	8,10	-10,0000	26,3	98	0,4796	0,8881	0,6303	1,016309961	-1,49	-10,0000	6,9
2	0,4796	0,8881	0,6382	1,03369901	7,23	-10,0000	26,1	98	0,4796	0,8881	0,6382	1,016309961	-1,87	-10,0000	6,9
2	0,4796	0,8881	0,6462	1,03369901	6,41	-10,0000	25,9	98	0,4796	0,8881	0,6462	1,016309961	-2,23	-10,0000	6,8
2	0,4796	0,8881	0,6541	1,03369901	5,63	-10,0000	25,7	98	0,4796	0,8881	0,6541	1,016309961	-2,59	-10,0000	6,8
2	0,4796	0,8881	0,6621	1,03369901	4,89	-10,0000	25,6	98	0,4796	0,8881	0,6621	1,016309961	-2,93	-10,0000	6,8
2	0,4796	0,8881	0,6700	1,03369901	4,17	-10,0000	25,5	98	0,4796	0,8881	0,6700	1,016309961	-3,26	-10,0000	6,7
2	0,4796	0,8881	0,6779	1,03369901	3,48	-10,0000	25,4	98	0,4796	0,8881	0,6779	1,016309961	-3,58	-10,0000	6,7
2	0,4796	0,8881	0,6859	1,03369901	2,81	-10,0000	25,3	98	0,4796	0,8881	0,6859	1,016309961	-3,89	-10,0000	6,7
2	0,4796	0,8881	0,6938	1,03369901	2,16	-10,0000	25,2	98	0,4796	0,8881	0,6938	1,016309961	-4,20	-10,0000	6,6
3	0,4796	0,8881	0,7017	1,03345348	1,48	-10,0000	25,0	97	0,4796	0,8881	0,7017	1,016443459	-4,46	-10,0000	6,7
3	0,4796	0,8881	0,7097	1,03345348	0,85	-10,0000	24,8	97	0,4796	0,8881	0,7097	1,016443459	-4,74	-10,0000	6,7
3	0,4796	0,8881	0,7176	1,03345348	0,26	-10,0000	24,8	97	0,4796	0,8881	0,7176	1,016443459	-5,02	-10,0000	6,7
3	0,4796	0,8881	0,7255	1,03345348	-0,32	-10,0000	24,7	97	0,4796	0,8881	0,7255	1,016443459	-5,29	-10,0000	6,7

3	0,4796	0,8881	0,7335	1,03345348	-0,88	-10,0000	24,6	97	0,4796	0,8881	0,7335	1,016443459	-5,56	-10,0000	6,7
3	0,4796	0,8881	0,7414	1,03345348	-1,42	-10,0000	24,6	97	0,4796	0,8881	0,7414	1,016443459	-5,82	-10,0000	6,6
3	0,4796	0,8881	0,7493	1,03345348	-1,95	-10,0000	24,5	97	0,4796	0,8881	0,7493	1,016443459	-6,07	-10,0000	6,6
3	0,4796	0,8881	0,7573	1,03345348	-2,47	-10,0000	24,5	97	0,4796	0,8881	0,7573	1,016443459	-6,32	-10,0000	6,6
3	0,4796	0,8881	0,7652	1,03345348	-2,98	-10,0000	24,5	97	0,4796	0,8881	0,7652	1,016443459	-6,57	-10,0000	6,6
4	0,4796	0,8881	0,7731	1,03320978	-3,51	-10,0000	24,2	96	0,4796	0,8881	0,7731	1,016577699	-6,78	-10,0000	6,7
4	0,4796	0,8881	0,7811	1,03320978	-4,00	-10,0000	24,1	96	0,4796	0,8881	0,7811	1,016577699	-7,01	-10,0000	6,7
4	0,4796	0,8881	0,7890	1,03320978	-4,47	-10,0000	24,1	96	0,4796	0,8881	0,7890	1,016577699	-7,24	-10,0000	6,7
4	0,4796	0,8881	0,7969	1,03320978	-4,93	-10,0000	24,1	96	0,4796	0,8881	0,7969	1,016577699	-7,47	-10,0000	6,7
4	0,4796	0,8881	0,8049	1,03320978	-5,38	-10,0000	24,0	96	0,4796	0,8881	0,8049	1,016577699	-7,68	-10,0000	6,7
4	0,4796	0,8881	0,8128	1,03320978	-5,81	-10,0000	24,0	96	0,4796	0,8881	0,8128	1,016577699	-7,90	-10,0000	6,7
4	0,4796	0,8881	0,8207	1,03320978	-6,24	-10,0000	24,0	96	0,4796	0,8881	0,8207	1,016577699	-8,11	-10,0000	6,7
4	0,4796	0,8881	0,8287	1,03320978	-6,66	-10,0000	24,0	96	0,4796	0,8881	0,8287	1,016577699	-8,32	-10,0000	6,6
4	0,4796	0,8881	0,8366	1,03320978	-7,08	-10,0000	23,9	96	0,4796	0,8881	0,8366	1,016577699	-8,52	-10,0000	6,6
5	0,4796	0,8881	0,8445	1,0329679	-7,50	-10,0000	23,7	95	0,4796	0,8881	0,8445	1,016712685	-8,71	-10,0000	6,8
5	0,4796	0,8881	0,8525	1,0329679	-7,89	-10,0000	23,6	95	0,4796	0,8881	0,8525	1,016712685	-8,90	-10,0000	6,8
5	0,4796	0,8881	0,8604	1,0329679	-8,27	-10,0000	23,6	95	0,4796	0,8881	0,8604	1,016712685	-9,09	-10,0000	6,8
5	0,4796	0,8881	0,8683	1,0329679	-8,65	-10,0000	23,6	95	0,4796	0,8881	0,8683	1,016712685	-9,28	-10,0000	6,7
5	0,4796	0,8881	0,8763	1,0329679	-9,02	-10,0000	23,6	95	0,4796	0,8881	0,8763	1,016712685	-9,47	-10,0000	6,7
5	0,4796	0,8881	0,8842	1,0329679	-9,38	-10,0000	23,6	95	0,4796	0,8881	0,8842	1,016712685	-9,65	-10,0000	6,7
5	0,4796	0,8881	0,8921	1,0329679	-9,74	-10,0000	23,5	95	0,4796	0,8881	0,8921	1,016712685	-9,83	-10,0000	6,7
5	0,4796	0,8881	0,9001	1,0329679	-10,09	-10,0000	23,5	95	0,4796	0,8881	0,9001	1,016712685	-10,00	-10,0000	6,7
5	0,4796	0,8881	0,9080	1,0329679	-10,43	-10,0000	23,5	95	0,4796	0,8881	0,9080	1,016712685	-10,17	-10,0000	6,7
6	0,4796	0,8881	0,9159	1,03272781	-10,76	-10,0000	23,2	94	0,4796	0,8881	0,9159	1,016848426	-10,34	-10,0000	6,9
6	0,4796	0,8881	0,9239	1,03272781	-11,09	-10,0000	23,2	94	0,4796	0,8881	0,9239	1,016848426	-10,51	-10,0000	6,8
6	0,4796	0,8881	0,9318	1,03272781	-11,41	-10,0000	23,2	94	0,4796	0,8881	0,9318	1,016848426	-10,67	-10,0000	6,8
6	0,4796	0,8881	0,9398	1,03272781	-11,73	-10,0000	23,2	94	0,4796	0,8881	0,9398	1,016848426	-10,83	-10,0000	6,8
6	0,4796	0,8881	0,9477	1,03272781	-12,04	-10,0000	23,2	94	0,4796	0,8881	0,9477	1,016848426	-10,99	-10,0000	6,8
6	0,4796	0,8881	0,9556	1,03272781	-12,35	-10,0000	23,2	94	0,4796	0,8881	0,9556	1,016848426	-11,15	-10,0000	6,8
6	0,4796	0,8881	0,9636	1,03272781	-12,65	-10,0000	23,2	94	0,4796	0,8881	0,9636	1,016848426	-11,30	-10,0000	6,8
6	0,4796	0,8881	0,9715	1,03272781	-12,94	-10,0000	23,1	94	0,4796	0,8881	0,9715	1,016848426	-11,45	-10,0000	6,8
6	0,4796	0,8881	0,9794	1,03272781	-13,23	-10,0000	23,1	94	0,4796	0,8881	0,9794	1,016848426	-11,60	-10,0000	6,8
7	0,4796	0,8881	0,9874	1,03248948	-13,49	-10,0000	22,9	93	0,4796	0,8881	0,9874	1,016984926	-11,76	-10,0000	7,0
7	0,4796	0,8881	0,9953	1,03248948	-13,77	-10,0000	22,9	93	0,4796	0,8881	0,9953	1,016984926	-11,90	-10,0000	6,9
7	0,4796	0,8881	1,0032	1,03248948	-14,04	-10,0000	22,9	93	0,4796	0,8881	1,0032	1,016984926	-12,05	-10,0000	6,9
7	0,4796	0,8881	1,0112	1,03248948	-14,31	-10,0000	22,9	93	0,4796	0,8881	1,0112	1,016984926	-12,19	-10,0000	6,9
7	0,4796	0,8881	1,0191	1,03248948	-14,58	-10,0000	22,8	93	0,4796	0,8881	1,0191	1,016984926	-12,32	-10,0000	6,9
7	0,4796	0,8881	1,0270	1,03248948	-14,84	-10,0000	22,8	93	0,4796	0,8881	1,0270	1,016984926	-12,46	-10,0000	6,9
7	0,4796	0,8881	1,0350	1,03248948	-15,10	-10,0000	22,8	93	0,4796	0,8881	1,0350	1,016984926	-12,59	-10,0000	6,9
7	0,4796	0,8881	1,0429	1,03248948	-15,35	-10,0000	22,8	93	0,4796	0,8881	1,0429	1,016984926	-12,72	-10,0000	6,9
7	0,4796	0,8881	1,0508	1,03248948	-15,60	-10,0000	22,8	93	0,4796	0,8881	1,0508	1,016984926	-12,85	-10,0000	6,9
8	0,4796	0,8881	1,0588	1,03225291	-15,79	-10,0000	22,5	92	0,4796	0,8881	1,0588	1,017122193	-13,01	-10,0000	7,1
8	0,4796	0,8881	1,0667	1,03225291	-16,04	-10,0000	22,6	92	0,4796	0,8881	1,0667	1,017122193	-13,13	-10,0000	7,1
8	0,4796	0,8881	1,0746	1,03225291	-16,27	-10,0000	22,5	92	0,4796	0,8881	1,0746	1,017122193	-13,25	-10,0000	7,1
8	0,4796	0,8881	1,0826	1,03225291	-16,51	-10,0000	22,5	92	0,4796	0,8881	1,0826	1,017122193	-13,38	-10,0000	7,1
8	0,4796	0,8881	1,0905	1,03225291	-16,74	-10,0000	22,5	92	0,4796	0,8881	1,0905	1,017122193	-13,50	-10,0000	7,1
8	0,4796	0,8881	1,0984	1,03225291	-16,96	-10,0000	22,5	92	0,4796	0,8881	1,0984	1,017122193	-13,62	-10,0000	7,1
8	0,4796	0,8881	1,1064	1,03225291	-17,18	-10,0000	22,5	92	0,4796	0,8881	1,1064	1,017122193	-13,73	-10,0000	7,0
8	0,4796	0,8881	1,1143	1,03225291	-17,40	-10,0000	22,5	92	0,4796	0,8881	1,1143	1,017122193	-13,85	-10,0000	7,0
8	0,4796	0,8881	1,1222	1,03225291	-17,62	-10,0000	22,5	92	0,4796	0,8881	1,1222	1,017122193	-13,96	-10,0000	7,0
9	0,4796	0,8881	1,1302	1,03201806	-17,76	-10,0000	22,2	91	0,4796	0,8881	1,1302	1,017260233	-14,12	-10,0000	7,2
9	0,4796	0,8881	1,1381	1,03201806	-17,98	-10,0000	22,3	91	0,4796	0,8881	1,1381	1,017260233	-14,22	-10,0000	7,2
9	0,4796	0,8881	1,1460	1,03201806	-18,18	-10,0000	22,2	91	0,4796	0,8881	1,1460	1,017260233	-14,33	-10,0000	7,2
9	0,4796	0,8881	1,1540	1,03201806	-18,39	-10,0000	22,2	91	0,4796	0,8881	1,1540	1,017260233	-14,44	-10,0000	7,2
9	0,4796	0,8881	1,1619	1,03201806	-18,59	-10,0000	22,2	91	0,4796	0,8881	1,1619	1,017260233	-14,54	-10,0000	7,2

9	0,4796	0,8881	1,1698	1,03201806	-18,78	-10,0000	22,2	91	0,4796	0,8881	1,1698	1,017260233	-14,65	-10,0000	7,2
9	0,4796	0,8881	1,1778	1,03201806	-18,98	-10,0000	22,2	91	0,4796	0,8881	1,1778	1,017260233	-14,75	-10,0000	7,2
9	0,4796	0,8881	1,1857	1,03201806	-19,17	-10,0000	22,2	91	0,4796	0,8881	1,1857	1,017260233	-14,86	-10,0000	7,2
9	0,4796	0,8881	1,1937	1,03201806	-19,36	-10,0000	22,2	91	0,4796	0,8881	1,1937	1,017260233	-14,96	-10,0000	7,2
10	0,4796	0,8881	1,2016	1,03178493	-19,45	-10,0000	21,9	90	0,4796	0,8881	1,2016	1,017399052	-15,11	-10,0000	7,3
10	0,4796	0,8881	1,2095	1,03178493	-19,66	-10,0000	22,0	90	0,4796	0,8881	1,2095	1,017399052	-15,19	-10,0000	7,3
10	0,4796	0,8881	1,2175	1,03178493	-19,83	-10,0000	21,9	90	0,4796	0,8881	1,2175	1,017399052	-15,30	-10,0000	7,3
10	0,4796	0,8881	1,2254	1,03178493	-20,01	-10,0000	21,9	90	0,4796	0,8881	1,2254	1,017399052	-15,39	-10,0000	7,3
10	0,4796	0,8881	1,2333	1,03178493	-20,19	-10,0000	21,9	90	0,4796	0,8881	1,2333	1,017399052	-15,49	-10,0000	7,3
10	0,4796	0,8881	1,2413	1,03178493	-20,36	-10,0000	21,9	90	0,4796	0,8881	1,2413	1,017399052	-15,58	-10,0000	7,3
10	0,4796	0,8881	1,2492	1,03178493	-20,53	-10,0000	21,9	90	0,4796	0,8881	1,2492	1,017399052	-15,68	-10,0000	7,3
10	0,4796	0,8881	1,2571	1,03178493	-20,70	-10,0000	21,9	90	0,4796	0,8881	1,2571	1,017399052	-15,77	-10,0000	7,3
10	0,4796	0,8881	1,2651	1,03178493	-20,87	-10,0000	21,9	90	0,4796	0,8881	1,2651	1,017399052	-15,86	-10,0000	7,3
11	0,4796	0,8881	1,2730	1,0315535	-20,92	-10,0000	21,6	89	0,4796	0,8881	1,2730	1,017538657	-16,01	-10,0000	7,5
11	0,4796	0,8881	1,2809	1,0315535	-21,12	-10,0000	21,7	89	0,4796	0,8881	1,2809	1,017538657	-16,08	-10,0000	7,4
11	0,4796	0,8881	1,2889	1,0315535	-21,27	-10,0000	21,7	89	0,4796	0,8881	1,2889	1,017538657	-16,18	-10,0000	7,4
11	0,4796	0,8881	1,2968	1,0315535	-21,43	-10,0000	21,7	89	0,4796	0,8881	1,2968	1,017538657	-16,26	-10,0000	7,4
11	0,4796	0,8881	1,3047	1,0315535	-21,58	-10,0000	21,7	89	0,4796	0,8881	1,3047	1,017538657	-16,35	-10,0000	7,4
11	0,4796	0,8881	1,3127	1,0315535	-21,74	-10,0000	21,7	89	0,4796	0,8881	1,3127	1,017538657	-16,43	-10,0000	7,4
11	0,4796	0,8881	1,3206	1,0315535	-21,89	-10,0000	21,7	89	0,4796	0,8881	1,3206	1,017538657	-16,52	-10,0000	7,4
11	0,4796	0,8881	1,3285	1,0315535	-22,04	-10,0000	21,7	89	0,4796	0,8881	1,3285	1,017538657	-16,60	-10,0000	7,4
11	0,4796	0,8881	1,3365	1,0315535	-22,18	-10,0000	21,7	89	0,4796	0,8881	1,3365	1,017538657	-16,68	-10,0000	7,4
12	0,4796	0,8881	1,3444	1,03132374	-22,20	-10,0000	21,3	88	0,4796	0,8881	1,3444	1,017679055	-16,84	-10,0000	7,6
12	0,4796	0,8881	1,3523	1,03132374	-22,40	-10,0000	21,5	88	0,4796	0,8881	1,3523	1,017679055	-16,89	-10,0000	7,5
12	0,4796	0,8881	1,3603	1,03132374	-22,52	-10,0000	21,4	88	0,4796	0,8881	1,3603	1,017679055	-16,98	-10,0000	7,6
12	0,4796	0,8881	1,3682	1,03132374	-22,67	-10,0000	21,4	88	0,4796	0,8881	1,3682	1,017679055	-17,05	-10,0000	7,6
12	0,4796	0,8881	1,3761	1,03132374	-22,80	-10,0000	21,4	88	0,4796	0,8881	1,3761	1,017679055	-17,13	-10,0000	7,6
12	0,4796	0,8881	1,3841	1,03132374	-22,94	-10,0000	21,4	88	0,4796	0,8881	1,3841	1,017679055	-17,21	-10,0000	7,6
12	0,4796	0,8881	1,3920	1,03132374	-23,07	-10,0000	21,4	88	0,4796	0,8881	1,3920	1,017679055	-17,29	-10,0000	7,6
12	0,4796	0,8881	1,3999	1,03132374	-23,21	-10,0000	21,4	88	0,4796	0,8881	1,3999	1,017679055	-17,36	-10,0000	7,6
12	0,4796	0,8881	1,4079	1,03132374	-23,34	-10,0000	21,4	88	0,4796	0,8881	1,4079	1,017679055	-17,44	-10,0000	7,6
13	0,4796	0,8881	1,4158	1,03109563	-23,33	-10,0000	21,1	87	0,4796	0,8881	1,4158	1,017820253	-17,60	-10,0000	7,8
13	0,4796	0,8881	1,4237	1,03109563	-23,52	-10,0000	21,2	87	0,4796	0,8881	1,4237	1,017820253	-17,63	-10,0000	7,7
13	0,4796	0,8881	1,4317	1,03109563	-23,62	-10,0000	21,1	87	0,4796	0,8881	1,4317	1,017820253	-17,72	-10,0000	7,7
13	0,4796	0,8881	1,4396	1,03109563	-23,76	-10,0000	21,2	87	0,4796	0,8881	1,4396	1,017820253	-17,78	-10,0000	7,7
13	0,4796	0,8881	1,4476	1,03109563	-23,87	-10,0000	21,1	87	0,4796	0,8881	1,4476	1,017820253	-17,86	-10,0000	7,7
13	0,4796	0,8881	1,4555	1,03109563	-24,00	-10,0000	21,1	87	0,4796	0,8881	1,4555	1,017820253	-17,93	-10,0000	7,7
13	0,4796	0,8881	1,4634	1,03109563	-24,12	-10,0000	21,1	87	0,4796	0,8881	1,4634	1,017820253	-18,00	-10,0000	7,7
13	0,4796	0,8881	1,4714	1,03109563	-24,24	-10,0000	21,1	87	0,4796	0,8881	1,4714	1,017820253	-18,07	-10,0000	7,7
13	0,4796	0,8881	1,4793	1,03109563	-24,36	-10,0000	21,1	87	0,4796	0,8881	1,4793	1,017820253	-18,13	-10,0000	7,7
14	0,4796	0,8881	1,4872	1,03086917	-24,32	-10,0000	20,8	86	0,4796	0,8881	1,4872	1,017962256	-18,30	-10,0000	7,9
14	0,4796	0,8881	1,4952	1,03086917	-24,51	-10,0000	21,0	86	0,4796	0,8881	1,4952	1,017962256	-18,32	-10,0000	7,8
14	0,4796	0,8881	1,5031	1,03086917	-24,58	-10,0000	20,9	86	0,4796	0,8881	1,5031	1,017962256	-18,41	-10,0000	7,8
14	0,4796	0,8881	1,5110	1,03086917	-24,71	-10,0000	20,9	86	0,4796	0,8881	1,5110	1,017962256	-18,46	-10,0000	7,8
14	0,4796	0,8881	1,5190	1,03086917	-24,82	-10,0000	20,9	86	0,4796	0,8881	1,5190	1,017962256	-18,53	-10,0000	7,8
14	0,4796	0,8881	1,5269	1,03086917	-24,93	-10,0000	20,9	86	0,4796	0,8881	1,5269	1,017962256	-18,59	-10,0000	7,8
14	0,4796	0,8881	1,5348	1,03086917	-25,04	-10,0000	20,9	86	0,4796	0,8881	1,5348	1,017962256	-18,66	-10,0000	7,8
14	0,4796	0,8881	1,5428	1,03086917	-25,15	-10,0000	20,9	86	0,4796	0,8881	1,5428	1,017962256	-18,72	-10,0000	7,8
14	0,4796	0,8881	1,5507	1,03086917	-25,25	-10,0000	20,9	86	0,4796	0,8881	1,5507	1,017962256	-18,78	-10,0000	7,8
15	0,4796	0,8881	1,5586	1,03064433	-25,19	-10,0000	20,5	85	0,4796	0,8881	1,5586	1,018105074	-18,95	-10,0000	8,0
15	0,4796	0,8881	1,5666	1,03064433	-25,38	-10,0000	20,7	85	0,4796	0,8881	1,5666	1,018105074	-18,96	-10,0000	7,9
15	0,4796	0,8881	1,5745	1,03064433	-25,44	-10,0000	20,6	85	0,4796	0,8881	1,5745	1,018105074	-19,05	-10,0000	8,0
15	0,4796	0,8881	1,5824	1,03064433	-25,56	-10,0000	20,7	85	0,4796	0,8881	1,5824	1,018105074	-19,09	-10,0000	8,0
15	0,4796	0,8881	1,5904	1,03064433	-25,65	-10,0000	20,6	85	0,4796	0,8881	1,5904	1,018105074	-19,16	-10,0000	8,0
15	0,4796	0,8881	1,5983	1,03064433	-25,76	-10,0000	20,7	85	0,4796	0,8881	1,5983	1,018105074	-19,21	-10,0000	8,0

15	0,4796	0,8881	1,6062	1,03064433	-25,85	-10,0000	20,6	85	0,4796	0,8881	1,6062	1,018105074	-19,27	-10,0000	8,0
15	0,4796	0,8881	1,6142	1,03064433	-25,95	-10,0000	20,6	85	0,4796	0,8881	1,6142	1,018105074	-19,33	-10,0000	8,0
15	0,4796	0,8881	1,6221	1,03064433	-26,05	-10,0000	20,6	85	0,4796	0,8881	1,6221	1,018105074	-19,39	-10,0000	8,0
16	0,4796	0,8881	1,6300	1,03042109	-25,96	-10,0000	20,3	84	0,4796	0,8881	1,6300	1,018248711	-19,56	-10,0000	8,2
16	0,4796	0,8881	1,6380	1,03042109	-26,16	-10,0000	20,5	84	0,4796	0,8881	1,6380	1,018248711	-19,56	-10,0000	8,1
16	0,4796	0,8881	1,6459	1,03042109	-26,20	-10,0000	20,4	84	0,4796	0,8881	1,6459	1,018248711	-19,65	-10,0000	8,1
16	0,4796	0,8881	1,6538	1,03042109	-26,32	-10,0000	20,4	84	0,4796	0,8881	1,6538	1,018248711	-19,68	-10,0000	8,1
16	0,4796	0,8881	1,6618	1,03042109	-26,39	-10,0000	20,4	84	0,4796	0,8881	1,6618	1,018248711	-19,75	-10,0000	8,1
16	0,4796	0,8881	1,6697	1,03042109	-26,49	-10,0000	20,4	84	0,4796	0,8881	1,6697	1,018248711	-19,80	-10,0000	8,1
16	0,4796	0,8881	1,6776	1,03042109	-26,58	-10,0000	20,4	84	0,4796	0,8881	1,6776	1,018248711	-19,85	-10,0000	8,1
16	0,4796	0,8881	1,6856	1,03042109	-26,67	-10,0000	20,4	84	0,4796	0,8881	1,6856	1,018248711	-19,91	-10,0000	8,1
16	0,4796	0,8881	1,6935	1,03042109	-26,76	-10,0000	20,4	84	0,4796	0,8881	1,6935	1,018248711	-19,96	-10,0000	8,1
17	0,4796	0,8881	1,7015	1,03019944	-26,65	-10,0000	20,0	83	0,4796	0,8881	1,7015	1,018393176	-20,14	-10,0000	8,3
17	0,4796	0,8881	1,7094	1,03019944	-26,85	-10,0000	20,2	83	0,4796	0,8881	1,7094	1,018393176	-20,12	-10,0000	8,2
17	0,4796	0,8881	1,7173	1,03019944	-26,87	-10,0000	20,1	83	0,4796	0,8881	1,7173	1,018393176	-20,21	-10,0000	8,3
17	0,4796	0,8881	1,7253	1,03019944	-26,99	-10,0000	20,2	83	0,4796	0,8881	1,7253	1,018393176	-20,24	-10,0000	8,2
17	0,4796	0,8881	1,7332	1,03019944	-27,05	-10,0000	20,2	83	0,4796	0,8881	1,7332	1,018393176	-20,30	-10,0000	8,3
17	0,4796	0,8881	1,7411	1,03019944	-27,15	-10,0000	20,2	83	0,4796	0,8881	1,7411	1,018393176	-20,34	-10,0000	8,2
17	0,4796	0,8881	1,7491	1,03019944	-27,22	-10,0000	20,2	83	0,4796	0,8881	1,7491	1,018393176	-20,40	-10,0000	8,2
17	0,4796	0,8881	1,7570	1,03019944	-27,31	-10,0000	20,2	83	0,4796	0,8881	1,7570	1,018393176	-20,45	-10,0000	8,2
17	0,4796	0,8881	1,7649	1,03019944	-27,38	-10,0000	20,2	83	0,4796	0,8881	1,7649	1,018393176	-20,50	-10,0000	8,2
18	0,4796	0,8881	1,7729	1,02997936	-27,26	-10,0000	19,8	82	0,4796	0,8881	1,7729	1,018538475	-20,68	-10,0000	8,5
18	0,4796	0,8881	1,7808	1,02997936	-27,46	-10,0000	20,0	82	0,4796	0,8881	1,7808	1,018538475	-20,65	-10,0000	8,3
18	0,4796	0,8881	1,7887	1,02997936	-27,47	-10,0000	19,9	82	0,4796	0,8881	1,7887	1,018538475	-20,74	-10,0000	8,4
18	0,4796	0,8881	1,7967	1,02997936	-27,59	-10,0000	20,0	82	0,4796	0,8881	1,7967	1,018538475	-20,76	-10,0000	8,4
18	0,4796	0,8881	1,8046	1,02997936	-27,64	-10,0000	19,9	82	0,4796	0,8881	1,8046	1,018538475	-20,83	-10,0000	8,4
18	0,4796	0,8881	1,8125	1,02997936	-27,73	-10,0000	19,9	82	0,4796	0,8881	1,8125	1,018538475	-20,86	-10,0000	8,4
18	0,4796	0,8881	1,8205	1,02997936	-27,79	-10,0000	19,9	82	0,4796	0,8881	1,8205	1,018538475	-20,92	-10,0000	8,4
18	0,4796	0,8881	1,8284	1,02997936	-27,88	-10,0000	19,9	82	0,4796	0,8881	1,8284	1,018538475	-20,96	-10,0000	8,4
18	0,4796	0,8881	1,8363	1,02997936	-27,94	-10,0000	19,9	82	0,4796	0,8881	1,8363	1,018538475	-21,01	-10,0000	8,4
19	0,4796	0,8881	1,8443	1,02976083	-27,81	-10,0000	19,6	81	0,4796	0,8881	1,8443	1,018684616	-21,19	-10,0000	8,6
19	0,4796	0,8881	1,8522	1,02976083	-28,01	-10,0000	19,8	81	0,4796	0,8881	1,8522	1,018684616	-21,15	-10,0000	8,5
19	0,4796	0,8881	1,8601	1,02976083	-28,00	-10,0000	19,7	81	0,4796	0,8881	1,8601	1,018684616	-21,25	-10,0000	8,6
19	0,4796	0,8881	1,8681	1,02976083	-28,12	-10,0000	19,7	81	0,4796	0,8881	1,8681	1,018684616	-21,26	-10,0000	8,5
19	0,4796	0,8881	1,8760	1,02976083	-28,16	-10,0000	19,7	81	0,4796	0,8881	1,8760	1,018684616	-21,33	-10,0000	8,5
19	0,4796	0,8881	1,8839	1,02976083	-28,25	-10,0000	19,7	81	0,4796	0,8881	1,8839	1,018684616	-21,36	-10,0000	8,5
19	0,4796	0,8881	1,8919	1,02976083	-28,30	-10,0000	19,7	81	0,4796	0,8881	1,8919	1,018684616	-21,41	-10,0000	8,5
19	0,4796	0,8881	1,8998	1,02976083	-28,38	-10,0000	19,7	81	0,4796	0,8881	1,8998	1,018684616	-21,45	-10,0000	8,5
19	0,4796	0,8881	1,9077	1,02976083	-28,44	-10,0000	19,7	81	0,4796	0,8881	1,9077	1,018684616	-21,49	-10,0000	8,5
20	0,4796	0,8881	1,9157	1,02954385	-28,29	-10,0000	19,3	80	0,4796	0,8881	1,9157	1,018831607	-21,68	-10,0000	8,8
20	0,4796	0,8881	1,9236	1,02954385	-28,50	-10,0000	19,6	80	0,4796	0,8881	1,9236	1,018831607	-21,63	-10,0000	8,6
20	0,4796	0,8881	1,9315	1,02954385	-28,47	-10,0000	19,4	80	0,4796	0,8881	1,9315	1,018831607	-21,73	-10,0000	8,7
20	0,4796	0,8881	1,9395	1,02954385	-28,60	-10,0000	19,5	80	0,4796	0,8881	1,9395	1,018831607	-21,73	-10,0000	8,6
20	0,4796	0,8881	1,9474	1,02954385	-28,62	-10,0000	19,5	80	0,4796	0,8881	1,9474	1,018831607	-21,80	-10,0000	8,7
20	0,4796	0,8881	1,9554	1,02954385	-28,71	-10,0000	19,5	80	0,4796	0,8881	1,9554	1,018831607	-21,82	-10,0000	8,7
20	0,4796	0,8881	1,9633	1,02954385	-28,76	-10,0000	19,5	80	0,4796	0,8881	1,9633	1,018831607	-21,88	-10,0000	8,7
20	0,4796	0,8881	1,9712	1,02954385	-28,83	-10,0000	19,5	80	0,4796	0,8881	1,9712	1,018831607	-21,91	-10,0000	8,7
20	0,4796	0,8881	1,9792	1,02954385	-28,89	-10,0000	19,5	80	0,4796	0,8881	1,9792	1,018831607	-21,95	-10,0000	8,7
21	0,4796	0,8881	1,9871	1,02932838	-28,73	-10,0000	19,1	79	0,4796	0,8881	1,9871	1,018979454	-22,15	-10,0000	8,9
21	0,4796	0,8881	1,9950	1,02932838	-28,94	-10,0000	19,3	79	0,4796	0,8881	1,9950	1,018979454	-22,08	-10,0000	8,8
21	0,4796	0,8881	2,0030	1,02932838	-28,90	-10,0000	19,2	79	0,4796	0,8881	2,0030	1,018979454	-22,19	-10,0000	8,9
21	0,4796	0,8881	2,0109	1,02932838	-29,03	-10,0000	19,3	79	0,4796	0,8881	2,0109	1,018979454	-22,19	-10,0000	8,8
21	0,4796	0,8881	2,0188	1,02932838	-29,04	-10,0000	19,2	79	0,4796	0,8881	2,0188	1,018979454	-22,26	-10,0000	8,8
21	0,4796	0,8881	2,0268	1,02932838	-29,13	-10,0000	19,3	79	0,4796	0,8881	2,0268	1,018979454	-22,27	-10,0000	8,8
21	0,4796	0,8881	2,0347	1,02932838	-29,17	-10,0000	19,2	79	0,4796	0,8881	2,0347	1,018979454	-22,33	-10,0000	8,8

21	0,4796	0,8881	2,0426	1,02932838	-29,24	-10,0000	19,3	79	0,4796	0,8881	2,0426	1,018979454	-22,35	-10,0000	8,8
21	0,4796	0,8881	2,0506	1,02932838	-29,29	-10,0000	19,2	79	0,4796	0,8881	2,0506	1,018979454	-22,40	-10,0000	8,8
22	0,4796	0,8881	2,0585	1,02911442	-29,11	-10,0000	18,9	78	0,4796	0,8881	2,0585	1,019128165	-22,59	-10,0000	9,1
22	0,4796	0,8881	2,0664	1,02911442	-29,33	-10,0000	19,1	78	0,4796	0,8881	2,0664	1,019128165	-22,52	-10,0000	8,9
22	0,4796	0,8881	2,0744	1,02911442	-29,27	-10,0000	19,0	78	0,4796	0,8881	2,0744	1,019128165	-22,63	-10,0000	9,0
22	0,4796	0,8881	2,0823	1,02911442	-29,41	-10,0000	19,1	78	0,4796	0,8881	2,0823	1,019128165	-22,62	-10,0000	8,9
22	0,4796	0,8881	2,0902	1,02911442	-29,41	-10,0000	19,0	78	0,4796	0,8881	2,0902	1,019128165	-22,69	-10,0000	9,0
22	0,4796	0,8881	2,0982	1,02911442	-29,50	-10,0000	19,1	78	0,4796	0,8881	2,0982	1,019128165	-22,70	-10,0000	8,9
22	0,4796	0,8881	2,1061	1,02911442	-29,53	-10,0000	19,0	78	0,4796	0,8881	2,1061	1,019128165	-22,76	-10,0000	9,0
22	0,4796	0,8881	2,1140	1,02911442	-29,60	-10,0000	19,0	78	0,4796	0,8881	2,1140	1,019128165	-22,78	-10,0000	9,0
22	0,4796	0,8881	2,1220	1,02911442	-29,64	-10,0000	19,0	78	0,4796	0,8881	2,1220	1,019128165	-22,82	-10,0000	9,0
23	0,4796	0,8881	2,1299	1,02890195	-29,46	-10,0000	18,7	77	0,4796	0,8881	2,1299	1,019277747	-23,02	-10,0000	9,2
23	0,4796	0,8881	2,1378	1,02890195	-29,68	-10,0000	18,9	77	0,4796	0,8881	2,1378	1,019277747	-22,94	-10,0000	9,0
23	0,4796	0,8881	2,1458	1,02890195	-29,61	-10,0000	18,7	77	0,4796	0,8881	2,1458	1,019277747	-23,06	-10,0000	9,2
23	0,4796	0,8881	2,1537	1,02890195	-29,75	-10,0000	18,9	77	0,4796	0,8881	2,1537	1,019277747	-23,04	-10,0000	9,1
23	0,4796	0,8881	2,1616	1,02890195	-29,74	-10,0000	18,8	77	0,4796	0,8881	2,1616	1,019277747	-23,11	-10,0000	9,1
23	0,4796	0,8881	2,1696	1,02890195	-29,83	-10,0000	18,8	77	0,4796	0,8881	2,1696	1,019277747	-23,12	-10,0000	9,1
23	0,4796	0,8881	2,1775	1,02890195	-29,85	-10,0000	18,8	77	0,4796	0,8881	2,1775	1,019277747	-23,17	-10,0000	9,1
23	0,4796	0,8881	2,1854	1,02890195	-29,92	-10,0000	18,8	77	0,4796	0,8881	2,1854	1,019277747	-23,19	-10,0000	9,1
23	0,4796	0,8881	2,1934	1,02890195	-29,96	-10,0000	18,8	77	0,4796	0,8881	2,1934	1,019277747	-23,23	-10,0000	9,1
24	0,4796	0,8881	2,2013	1,02869095	-29,77	-10,0000	18,4	76	0,4796	0,8881	2,2013	1,019428209	-23,44	-10,0000	9,4
24	0,4796	0,8881	2,2092	1,02869095	-29,99	-10,0000	18,7	76	0,4796	0,8881	2,2092	1,019428209	-23,35	-10,0000	9,2
24	0,4796	0,8881	2,2172	1,02869095	-29,91	-10,0000	18,5	76	0,4796	0,8881	2,2172	1,019428209	-23,47	-10,0000	9,3
24	0,4796	0,8881	2,2251	1,02869095	-30,05	-10,0000	18,6	76	0,4796	0,8881	2,2251	1,019428209	-23,44	-10,0000	9,2
24	0,4796	0,8881	2,2331	1,02869095	-30,03	-10,0000	18,5	76	0,4796	0,8881	2,2331	1,019428209	-23,52	-10,0000	9,3
24	0,4796	0,8881	2,2410	1,02869095	-30,13	-10,0000	18,6	76	0,4796	0,8881	2,2410	1,019428209	-23,51	-10,0000	9,2
24	0,4796	0,8881	2,2489	1,02869095	-30,14	-10,0000	18,6	76	0,4796	0,8881	2,2489	1,019428209	-23,57	-10,0000	9,3
24	0,4796	0,8881	2,2569	1,02869095	-30,21	-10,0000	18,6	76	0,4796	0,8881	2,2569	1,019428209	-23,58	-10,0000	9,2
24	0,4796	0,8881	2,2648	1,02869095	-30,24	-10,0000	18,6	76	0,4796	0,8881	2,2648	1,019428209	-23,63	-10,0000	9,3
25	0,4796	0,8881	2,2727	1,02848141	-30,04	-10,0000	18,2	75	0,4796	0,8881	2,2727	1,019579559	-23,84	-10,0000	9,5
25	0,4796	0,8881	2,2807	1,02848141	-30,27	-10,0000	18,5	75	0,4796	0,8881	2,2807	1,019579559	-23,74	-10,0000	9,3
25	0,4796	0,8881	2,2886	1,02848141	-30,18	-10,0000	18,3	75	0,4796	0,8881	2,2886	1,019579559	-23,86	-10,0000	9,5
25	0,4796	0,8881	2,2965	1,02848141	-30,32	-10,0000	18,4	75	0,4796	0,8881	2,2965	1,019579559	-23,82	-10,0000	9,4
25	0,4796	0,8881	2,3045	1,02848141	-30,29	-10,0000	18,3	75	0,4796	0,8881	2,3045	1,019579559	-23,91	-10,0000	9,4
25	0,4796	0,8881	2,3124	1,02848141	-30,39	-10,0000	18,4	75	0,4796	0,8881	2,3124	1,019579559	-23,90	-10,0000	9,4
25	0,4796	0,8881	2,3203	1,02848141	-30,39	-10,0000	18,3	75	0,4796	0,8881	2,3203	1,019579559	-23,96	-10,0000	9,4
25	0,4796	0,8881	2,3283	1,02848141	-30,47	-10,0000	18,4	75	0,4796	0,8881	2,3283	1,019579559	-23,97	-10,0000	9,4
25	0,4796	0,8881	2,3362	1,02848141	-30,49	-10,0000	18,4	75	0,4796	0,8881	2,3362	1,019579559	-24,01	-10,0000	9,4
26	0,4796	0,8881	2,3441	1,02827332	-30,28	-10,0000	18,0	74	0,4796	0,8881	2,3441	1,019731803	-24,22	-10,0000	9,7
26	0,4796	0,8881	2,3521	1,02827332	-30,51	-10,0000	18,3	74	0,4796	0,8881	2,3521	1,019731803	-24,12	-10,0000	9,5
26	0,4796	0,8881	2,3600	1,02827332	-30,41	-10,0000	18,1	74	0,4796	0,8881	2,3600	1,019731803	-24,25	-10,0000	9,6
26	0,4796	0,8881	2,3679	1,02827332	-30,56	-10,0000	18,2	74	0,4796	0,8881	2,3679	1,019731803	-24,20	-10,0000	9,5
26	0,4796	0,8881	2,3759	1,02827332	-30,52	-10,0000	18,1	74	0,4796	0,8881	2,3759	1,019731803	-24,29	-10,0000	9,6
26	0,4796	0,8881	2,3838	1,02827332	-30,62	-10,0000	18,2	74	0,4796	0,8881	2,3838	1,019731803	-24,27	-10,0000	9,5
26	0,4796	0,8881	2,3917	1,02827332	-30,62	-10,0000	18,1	74	0,4796	0,8881	2,3917	1,019731803	-24,33	-10,0000	9,6
26	0,4796	0,8881	2,3997	1,02827332	-30,69	-10,0000	18,2	74	0,4796	0,8881	2,3997	1,019731803	-24,34	-10,0000	9,5
26	0,4796	0,8881	2,4076	1,02827332	-30,71	-10,0000	18,1	74	0,4796	0,8881	2,4076	1,019731803	-24,38	-10,0000	9,6
27	0,4796	0,8881	2,4155	1,02806665	-30,50	-10,0000	17,8	73	0,4796	0,8881	2,4155	1,01988495	-24,60	-10,0000	9,8
27	0,4796	0,8881	2,4235	1,02806665	-30,73	-10,0000	18,1	73	0,4796	0,8881	2,4235	1,01988495	-24,48	-10,0000	9,6
27	0,4796	0,8881	2,4314	1,02806665	-30,62	-10,0000	17,9	73	0,4796	0,8881	2,4314	1,01988495	-24,62	-10,0000	9,8
27	0,4796	0,8881	2,4393	1,02806665	-30,77	-10,0000	18,0	73	0,4796	0,8881	2,4393	1,01988495	-24,56	-10,0000	9,7
27	0,4796	0,8881	2,4473	1,02806665	-30,72	-10,0000	17,9	73	0,4796	0,8881	2,4473	1,01988495	-24,66	-10,0000	9,7
27	0,4796	0,8881	2,4552	1,02806665	-30,83	-10,0000	18,0	73	0,4796	0,8881	2,4552	1,01988495	-24,63	-10,0000	9,7
27	0,4796	0,8881	2,4631	1,02806665	-30,82	-10,0000	17,9	73	0,4796	0,8881	2,4631	1,01988495	-24,70	-10,0000	9,7
27	0,4796	0,8881	2,4711	1,02806665	-30,90	-10,0000	18,0	73	0,4796	0,8881	2,4711	1,01988495	-24,70	-10,0000	9,7

27	0,4796	0,8881	2,4790	1,02806665	-30,90	-10,0000	17,9	73	0,4796	0,8881	2,4790	1,01988495	-24,75	-10,0000	9,7
28	0,4796	0,8881	2,4870	1,0278614	-30,69	-10,0000	17,6	72	0,4796	0,8881	2,4870	1,020039008	-24,96	-10,0000	10,0
28	0,4796	0,8881	2,4949	1,0278614	-30,92	-10,0000	17,9	72	0,4796	0,8881	2,4949	1,020039008	-24,84	-10,0000	9,8
28	0,4796	0,8881	2,5028	1,0278614	-30,81	-10,0000	17,7	72	0,4796	0,8881	2,5028	1,020039008	-24,98	-10,0000	9,9
28	0,4796	0,8881	2,5108	1,0278614	-30,96	-10,0000	17,8	72	0,4796	0,8881	2,5108	1,020039008	-24,92	-10,0000	9,8
28	0,4796	0,8881	2,5187	1,0278614	-30,90	-10,0000	17,7	72	0,4796	0,8881	2,5187	1,020039008	-25,01	-10,0000	9,9
28	0,4796	0,8881	2,5266	1,0278614	-31,02	-10,0000	17,8	72	0,4796	0,8881	2,5266	1,020039008	-24,98	-10,0000	9,8
28	0,4796	0,8881	2,5346	1,0278614	-30,99	-10,0000	17,7	72	0,4796	0,8881	2,5346	1,020039008	-25,05	-10,0000	9,9
28	0,4796	0,8881	2,5425	1,0278614	-31,07	-10,0000	17,8	72	0,4796	0,8881	2,5425	1,020039008	-25,05	-10,0000	9,8
28	0,4796	0,8881	2,5504	1,0278614	-31,07	-10,0000	17,7	72	0,4796	0,8881	2,5504	1,020039008	-25,10	-10,0000	9,9
29	0,4796	0,8881	2,5584	1,02765755	-30,86	-10,0000	17,4	71	0,4796	0,8881	2,5584	1,020193985	-25,31	-10,0000	10,1
29	0,4796	0,8881	2,5663	1,02765755	-31,09	-10,0000	17,6	71	0,4796	0,8881	2,5663	1,020193985	-25,19	-10,0000	9,9
29	0,4796	0,8881	2,5742	1,02765755	-30,97	-10,0000	17,4	71	0,4796	0,8881	2,5742	1,020193985	-25,33	-10,0000	10,1
29	0,4796	0,8881	2,5822	1,02765755	-31,13	-10,0000	17,6	71	0,4796	0,8881	2,5822	1,020193985	-25,26	-10,0000	10,0
29	0,4796	0,8881	2,5901	1,02765755	-31,06	-10,0000	17,5	71	0,4796	0,8881	2,5901	1,020193985	-25,36	-10,0000	10,1
29	0,4796	0,8881	2,5980	1,02765755	-31,18	-10,0000	17,6	71	0,4796	0,8881	2,5980	1,020193985	-25,33	-10,0000	10,0
29	0,4796	0,8881	2,6060	1,02765755	-31,14	-10,0000	17,5	71	0,4796	0,8881	2,6060	1,020193985	-25,40	-10,0000	10,0
29	0,4796	0,8881	2,6139	1,02765755	-31,23	-10,0000	17,6	71	0,4796	0,8881	2,6139	1,020193985	-25,39	-10,0000	10,0
29	0,4796	0,8881	2,6218	1,02765755	-31,22	-10,0000	17,5	71	0,4796	0,8881	2,6218	1,020193985	-25,44	-10,0000	10,0
30	0,4796	0,8881	2,6298	1,02745508	-31,01	-10,0000	17,2	70	0,4796	0,8881	2,6298	1,02034989	-25,66	-10,0000	10,3
30	0,4796	0,8881	2,6377	1,02745508	-31,24	-10,0000	17,4	70	0,4796	0,8881	2,6377	1,02034989	-25,53	-10,0000	10,1
30	0,4796	0,8881	2,6456	1,02745508	-31,11	-10,0000	17,2	70	0,4796	0,8881	2,6456	1,02034989	-25,68	-10,0000	10,2
30	0,4796	0,8881	2,6536	1,02745508	-31,27	-10,0000	17,4	70	0,4796	0,8881	2,6536	1,02034989	-25,60	-10,0000	10,1
30	0,4796	0,8881	2,6615	1,02745508	-31,20	-10,0000	17,3	70	0,4796	0,8881	2,6615	1,02034989	-25,70	-10,0000	10,2
30	0,4796	0,8881	2,6694	1,02745508	-31,32	-10,0000	17,4	70	0,4796	0,8881	2,6694	1,02034989	-25,66	-10,0000	10,1
30	0,4796	0,8881	2,6774	1,02745508	-31,28	-10,0000	17,3	70	0,4796	0,8881	2,6774	1,02034989	-25,74	-10,0000	10,2
30	0,4796	0,8881	2,6853	1,02745508	-31,37	-10,0000	17,4	70	0,4796	0,8881	2,6853	1,02034989	-25,72	-10,0000	10,1
30	0,4796	0,8881	2,6932	1,02745508	-31,35	-10,0000	17,3	70	0,4796	0,8881	2,6932	1,02034989	-25,78	-10,0000	10,2
31	0,4796	0,8881	2,7012	1,02725399	-31,14	-10,0000	17,0	69	0,4796	0,8881	2,7012	1,02050673	-25,99	-10,0000	10,4
31	0,4796	0,8881	2,7091	1,02725399	-31,37	-10,0000	17,2	69	0,4796	0,8881	2,7091	1,02050673	-25,86	-10,0000	10,2
31	0,4796	0,8881	2,7170	1,02725399	-31,23	-10,0000	17,0	69	0,4796	0,8881	2,7170	1,02050673	-26,01	-10,0000	10,4
31	0,4796	0,8881	2,7250	1,02725399	-31,40	-10,0000	17,2	69	0,4796	0,8881	2,7250	1,02050673	-25,93	-10,0000	10,3
31	0,4796	0,8881	2,7329	1,02725399	-31,32	-10,0000	17,1	69	0,4796	0,8881	2,7329	1,02050673	-26,04	-10,0000	10,4
31	0,4796	0,8881	2,7409	1,02725399	-31,44	-10,0000	17,2	69	0,4796	0,8881	2,7409	1,02050673	-25,99	-10,0000	10,3
31	0,4796	0,8881	2,7488	1,02725399	-31,39	-10,0000	17,1	69	0,4796	0,8881	2,7488	1,02050673	-26,07	-10,0000	10,3
31	0,4796	0,8881	2,7567	1,02725399	-31,49	-10,0000	17,2	69	0,4796	0,8881	2,7567	1,02050673	-26,04	-10,0000	10,3
31	0,4796	0,8881	2,7647	1,02725399	-31,46	-10,0000	17,1	69	0,4796	0,8881	2,7647	1,02050673	-26,11	-10,0000	10,3
32	0,4796	0,8881	2,7726	1,02705425	-31,25	-10,0000	16,8	68	0,4796	0,8881	2,7726	1,020664515	-26,32	-10,0000	10,6
32	0,4796	0,8881	2,7805	1,02705425	-31,48	-10,0000	17,0	68	0,4796	0,8881	2,7805	1,020664515	-26,18	-10,0000	10,4
32	0,4796	0,8881	2,7885	1,02705425	-31,34	-10,0000	16,8	68	0,4796	0,8881	2,7885	1,020664515	-26,34	-10,0000	10,5
32	0,4796	0,8881	2,7964	1,02705425	-31,51	-10,0000	17,0	68	0,4796	0,8881	2,7964	1,020664515	-26,25	-10,0000	10,4
32	0,4796	0,8881	2,8043	1,02705425	-31,42	-10,0000	16,9	68	0,4796	0,8881	2,8043	1,020664515	-26,36	-10,0000	10,5
32	0,4796	0,8881	2,8123	1,02705425	-31,55	-10,0000	17,0	68	0,4796	0,8881	2,8123	1,020664515	-26,31	-10,0000	10,4
32	0,4796	0,8881	2,8202	1,02705425	-31,49	-10,0000	16,9	68	0,4796	0,8881	2,8202	1,020664515	-26,39	-10,0000	10,5
32	0,4796	0,8881	2,8281	1,02705425	-31,59	-10,0000	17,0	68	0,4796	0,8881	2,8281	1,020664515	-26,36	-10,0000	10,4
32	0,4796	0,8881	2,8361	1,02705425	-31,56	-10,0000	16,9	68	0,4796	0,8881	2,8361	1,020664515	-26,43	-10,0000	10,5
33	0,4796	0,8881	2,8440	1,02685586	-31,34	-10,0000	16,6	67	0,4796	0,8881	2,8440	1,020823252	-26,65	-10,0000	10,7
33	0,4796	0,8881	2,8519	1,02685586	-31,57	-10,0000	16,8	67	0,4796	0,8881	2,8519	1,020823252	-26,50	-10,0000	10,5
33	0,4796	0,8881	2,8599	1,02685586	-31,43	-10,0000	16,6	67	0,4796	0,8881	2,8599	1,020823252	-26,66	-10,0000	10,7
33	0,4796	0,8881	2,8678	1,02685586	-31,60	-10,0000	16,8	67	0,4796	0,8881	2,8678	1,020823252	-26,57	-10,0000	10,6
33	0,4796	0,8881	2,8757	1,02685586	-31,51	-10,0000	16,6	67	0,4796	0,8881	2,8757	1,020823252	-26,68	-10,0000	10,7
33	0,4796	0,8881	2,8837	1,02685586	-31,64	-10,0000	16,8	67	0,4796	0,8881	2,8837	1,020823252	-26,62	-10,0000	10,6
33	0,4796	0,8881	2,8916	1,02685586	-31,57	-10,0000	16,7	67	0,4796	0,8881	2,8916	1,020823252	-26,71	-10,0000	10,7
33	0,4796	0,8881	2,8995	1,02685586	-31,68	-10,0000	16,8	67	0,4796	0,8881	2,8995	1,020823252	-26,68	-10,0000	10,6
33	0,4796	0,8881	2,9075	1,02685586	-31,64	-10,0000	16,7	67	0,4796	0,8881	2,9075	1,020823252	-26,75	-10,0000	10,7

34	0,4796	0,8881	2,9154	1,0266588	-31,42	-10,0000	16,4	66	0,4796	0,8881	2,9154	1,020982951	-26,96	-10,0000	10,9
34	0,4796	0,8881	2,9233	1,0266588	-31,65	-10,0000	16,6	66	0,4796	0,8881	2,9233	1,020982951	-26,82	-10,0000	10,7
34	0,4796	0,8881	2,9313	1,0266588	-31,51	-10,0000	16,4	66	0,4796	0,8881	2,9313	1,020982951	-26,98	-10,0000	10,9
34	0,4796	0,8881	2,9392	1,0266588	-31,68	-10,0000	16,6	66	0,4796	0,8881	2,9392	1,020982951	-26,88	-10,0000	10,7
34	0,4796	0,8881	2,9471	1,0266588	-31,58	-10,0000	16,4	66	0,4796	0,8881	2,9471	1,020982951	-27,00	-10,0000	10,8
34	0,4796	0,8881	2,9551	1,0266588	-31,71	-10,0000	16,6	66	0,4796	0,8881	2,9551	1,020982951	-26,93	-10,0000	10,7
34	0,4796	0,8881	2,9630	1,0266588	-31,64	-10,0000	16,5	66	0,4796	0,8881	2,9630	1,020982951	-27,03	-10,0000	10,8
34	0,4796	0,8881	2,9709	1,0266588	-31,75	-10,0000	16,6	66	0,4796	0,8881	2,9709	1,020982951	-26,98	-10,0000	10,7
34	0,4796	0,8881	2,9789	1,0266588	-31,70	-10,0000	16,5	66	0,4796	0,8881	2,9789	1,020982951	-27,06	-10,0000	10,8
35	0,4796	0,8881	2,9868	1,02646305	-31,49	-10,0000	16,2	65	0,4796	0,8881	2,9868	1,02114362	-27,27	-10,0000	11,1
35	0,4796	0,8881	2,9948	1,02646305	-31,72	-10,0000	16,4	65	0,4796	0,8881	2,9948	1,02114362	-27,12	-10,0000	10,8
35	0,4796	0,8881	3,0027	1,02646305	-31,57	-10,0000	16,2	65	0,4796	0,8881	3,0027	1,02114362	-27,29	-10,0000	11,0
35	0,4796	0,8881	3,0106	1,02646305	-31,74	-10,0000	16,4	65	0,4796	0,8881	3,0106	1,02114362	-27,18	-10,0000	10,9
35	0,4796	0,8881	3,0186	1,02646305	-31,64	-10,0000	16,2	65	0,4796	0,8881	3,0186	1,02114362	-27,31	-10,0000	11,0
35	0,4796	0,8881	3,0265	1,02646305	-31,77	-10,0000	16,4	65	0,4796	0,8881	3,0265	1,02114362	-27,24	-10,0000	10,9
35	0,4796	0,8881	3,0344	1,02646305	-31,70	-10,0000	16,3	65	0,4796	0,8881	3,0344	1,02114362	-27,33	-10,0000	11,0
35	0,4796	0,8881	3,0424	1,02646305	-31,81	-10,0000	16,4	65	0,4796	0,8881	3,0424	1,02114362	-27,29	-10,0000	10,9
35	0,4796	0,8881	3,0503	1,02646305	-31,76	-10,0000	16,3	65	0,4796	0,8881	3,0503	1,02114362	-27,36	-10,0000	11,0
36	0,4796	0,8881	3,0582	1,02626861	-31,55	-10,0000	16,0	64	0,4796	0,8881	3,0582	1,021305268	-27,58	-10,0000	11,2
36	0,4796	0,8881	3,0662	1,02626861	-31,77	-10,0000	16,2	64	0,4796	0,8881	3,0662	1,021305268	-27,43	-10,0000	11,0
36	0,4796	0,8881	3,0741	1,02626861	-31,62	-10,0000	16,0	64	0,4796	0,8881	3,0741	1,021305268	-27,59	-10,0000	11,2
36	0,4796	0,8881	3,0820	1,02626861	-31,80	-10,0000	16,2	64	0,4796	0,8881	3,0820	1,021305268	-27,48	-10,0000	11,0
36	0,4796	0,8881	3,0900	1,02626861	-31,68	-10,0000	16,0	64	0,4796	0,8881	3,0900	1,021305268	-27,61	-10,0000	11,2
36	0,4796	0,8881	3,0979	1,02626861	-31,82	-10,0000	16,2	64	0,4796	0,8881	3,0979	1,021305268	-27,54	-10,0000	11,0
36	0,4796	0,8881	3,1058	1,02626861	-31,74	-10,0000	16,1	64	0,4796	0,8881	3,1058	1,021305268	-27,64	-10,0000	11,1
36	0,4796	0,8881	3,1138	1,02626861	-31,86	-10,0000	16,2	64	0,4796	0,8881	3,1138	1,021305268	-27,58	-10,0000	11,1
36	0,4796	0,8881	3,1217	1,02626861	-31,80	-10,0000	16,1	64	0,4796	0,8881	3,1217	1,021305268	-27,67	-10,0000	11,1
37	0,4796	0,8881	3,1296	1,02607546	-31,59	-10,0000	15,8	63	0,4796	0,8881	3,1296	1,021467904	-27,88	-10,0000	11,4
37	0,4796	0,8881	3,1376	1,02607546	-31,81	-10,0000	16,0	63	0,4796	0,8881	3,1376	1,021467904	-27,73	-10,0000	11,2
37	0,4796	0,8881	3,1455	1,02607546	-31,66	-10,0000	15,8	63	0,4796	0,8881	3,1455	1,021467904	-27,89	-10,0000	11,3
37	0,4796	0,8881	3,1534	1,02607546	-31,84	-10,0000	16,0	63	0,4796	0,8881	3,1534	1,021467904	-27,78	-10,0000	11,2
37	0,4796	0,8881	3,1614	1,02607546	-31,72	-10,0000	15,9	63	0,4796	0,8881	3,1614	1,021467904	-27,91	-10,0000	11,3
37	0,4796	0,8881	3,1693	1,02607546	-31,86	-10,0000	16,0	63	0,4796	0,8881	3,1693	1,021467904	-27,83	-10,0000	11,2
37	0,4796	0,8881	3,1772	1,02607546	-31,78	-10,0000	15,9	63	0,4796	0,8881	3,1772	1,021467904	-27,94	-10,0000	11,3
37	0,4796	0,8881	3,1852	1,02607546	-31,89	-10,0000	16,0	63	0,4796	0,8881	3,1852	1,021467904	-27,88	-10,0000	11,2
37	0,4796	0,8881	3,1931	1,02607546	-31,83	-10,0000	15,9	63	0,4796	0,8881	3,1931	1,021467904	-27,96	-10,0000	11,3
38	0,4796	0,8881	3,2010	1,02588359	-31,62	-10,0000	15,6	62	0,4796	0,8881	3,2010	1,021631537	-28,18	-10,0000	11,5
38	0,4796	0,8881	3,2090	1,02588359	-31,84	-10,0000	15,8	62	0,4796	0,8881	3,2090	1,021631537	-28,02	-10,0000	11,3
38	0,4796	0,8881	3,2169	1,02588359	-31,69	-10,0000	15,6	62	0,4796	0,8881	3,2169	1,021631537	-28,19	-10,0000	11,5
38	0,4796	0,8881	3,2248	1,02588359	-31,86	-10,0000	15,8	62	0,4796	0,8881	3,2248	1,021631537	-28,07	-10,0000	11,3
38	0,4796	0,8881	3,2328	1,02588359	-31,74	-10,0000	15,7	62	0,4796	0,8881	3,2328	1,021631537	-28,21	-10,0000	11,5
38	0,4796	0,8881	3,2407	1,02588359	-31,89	-10,0000	15,8	62	0,4796	0,8881	3,2407	1,021631537	-28,12	-10,0000	11,4
38	0,4796	0,8881	3,2487	1,02588359	-31,80	-10,0000	15,7	62	0,4796	0,8881	3,2487	1,021631537	-28,23	-10,0000	11,5
38	0,4796	0,8881	3,2566	1,02588359	-31,92	-10,0000	15,8	62	0,4796	0,8881	3,2566	1,021631537	-28,17	-10,0000	11,4
38	0,4796	0,8881	3,2645	1,02588359	-31,85	-10,0000	15,7	62	0,4796	0,8881	3,2645	1,021631537	-28,26	-10,0000	11,5
39	0,4796	0,8881	3,2725	1,02569298	-31,64	-10,0000	15,4	61	0,4796	0,8881	3,2725	1,021796176	-28,47	-10,0000	11,7
39	0,4796	0,8881	3,2804	1,02569298	-31,86	-10,0000	15,7	61	0,4796	0,8881	3,2804	1,021796176	-28,31	-10,0000	11,5
39	0,4796	0,8881	3,2883	1,02569298	-31,70	-10,0000	15,4	61	0,4796	0,8881	3,2883	1,021796176	-28,48	-10,0000	11,7
39	0,4796	0,8881	3,2963	1,02569298	-31,88	-10,0000	15,6	61	0,4796	0,8881	3,2963	1,021796176	-28,36	-10,0000	11,5
39	0,4796	0,8881	3,3042	1,02569298	-31,76	-10,0000	15,5	61	0,4796	0,8881	3,3042	1,021796176	-28,50	-10,0000	11,7
39	0,4796	0,8881	3,3121	1,02569298	-31,91	-10,0000	15,6	61	0,4796	0,8881	3,3121	1,021796176	-28,41	-10,0000	11,5
39	0,4796	0,8881	3,3201	1,02569298	-31,81	-10,0000	15,5	61	0,4796	0,8881	3,3201	1,021796176	-28,52	-10,0000	11,6
39	0,4796	0,8881	3,3280	1,02569298	-31,93	-10,0000	15,6	61	0,4796	0,8881	3,3280	1,021796176	-28,45	-10,0000	11,5
39	0,4796	0,8881	3,3359	1,02569298	-31,86	-10,0000	15,5	61	0,4796	0,8881	3,3359	1,021796176	-28,55	-10,0000	11,6
40	0,4796	0,8881	3,3439	1,02550363	-31,66	-10,0000	15,2	60	0,4796	0,8881	3,3439	1,021961831	-28,76	-10,0000	11,9

40	0,4796	0,8881	3,3518	1,02550363	-31,87	-10,0000	15,5	60	0,4796	0,8881	3,3518	1,021961831	-28,60	-10,0000	11,7
40	0,4796	0,8881	3,3597	1,02550363	-31,71	-10,0000	15,3	60	0,4796	0,8881	3,3597	1,021961831	-28,77	-10,0000	11,8
40	0,4796	0,8881	3,3677	1,02550363	-31,89	-10,0000	15,4	60	0,4796	0,8881	3,3677	1,021961831	-28,65	-10,0000	11,7
40	0,4796	0,8881	3,3756	1,02550363	-31,77	-10,0000	15,3	60	0,4796	0,8881	3,3756	1,021961831	-28,79	-10,0000	11,8
40	0,4796	0,8881	3,3835	1,02550363	-31,92	-10,0000	15,4	60	0,4796	0,8881	3,3835	1,021961831	-28,69	-10,0000	11,7
40	0,4796	0,8881	3,3915	1,02550363	-31,82	-10,0000	15,3	60	0,4796	0,8881	3,3915	1,021961831	-28,81	-10,0000	11,8
40	0,4796	0,8881	3,3994	1,02550363	-31,94	-10,0000	15,4	60	0,4796	0,8881	3,3994	1,021961831	-28,73	-10,0000	11,7
40	0,4796	0,8881	3,4073	1,02550363	-31,86	-10,0000	15,3	60	0,4796	0,8881	3,4073	1,021961831	-28,83	-10,0000	11,8
41	0,4796	0,8881	3,4153	1,02531551	-31,66	-10,0000	15,0	59	0,4796	0,8881	3,4153	1,022128511	-29,05	-10,0000	12,0
41	0,4796	0,8881	3,4232	1,02531551	-31,88	-10,0000	15,3	59	0,4796	0,8881	3,4232	1,022128511	-28,88	-10,0000	11,8
41	0,4796	0,8881	3,4311	1,02531551	-31,71	-10,0000	15,1	59	0,4796	0,8881	3,4311	1,022128511	-29,06	-10,0000	12,0
41	0,4796	0,8881	3,4391	1,02531551	-31,90	-10,0000	15,3	59	0,4796	0,8881	3,4391	1,022128511	-28,93	-10,0000	11,8
41	0,4796	0,8881	3,4470	1,02531551	-31,76	-10,0000	15,1	59	0,4796	0,8881	3,4470	1,022128511	-29,08	-10,0000	12,0
41	0,4796	0,8881	3,4549	1,02531551	-31,92	-10,0000	15,2	59	0,4796	0,8881	3,4549	1,022128511	-28,97	-10,0000	11,9
41	0,4796	0,8881	3,4629	1,02531551	-31,81	-10,0000	15,1	59	0,4796	0,8881	3,4629	1,022128511	-29,10	-10,0000	12,0
41	0,4796	0,8881	3,4708	1,02531551	-31,94	-10,0000	15,2	59	0,4796	0,8881	3,4708	1,022128511	-29,01	-10,0000	11,9
41	0,4796	0,8881	3,4787	1,02531551	-31,86	-10,0000	15,1	59	0,4796	0,8881	3,4787	1,022128511	-29,12	-10,0000	12,0
42	0,4796	0,8881	3,4867	1,02512863	-31,66	-10,0000	14,9	58	0,4796	0,8881	3,4867	1,022296226	-29,33	-10,0000	12,2
42	0,4796	0,8881	3,4946	1,02512863	-31,87	-10,0000	15,1	58	0,4796	0,8881	3,4946	1,022296226	-29,17	-10,0000	12,0
42	0,4796	0,8881	3,5025	1,02512863	-31,71	-10,0000	14,9	58	0,4796	0,8881	3,5025	1,022296226	-29,34	-10,0000	12,2
42	0,4796	0,8881	3,5105	1,02512863	-31,89	-10,0000	15,1	58	0,4796	0,8881	3,5105	1,022296226	-29,21	-10,0000	12,0
42	0,4796	0,8881	3,5184	1,02512863	-31,76	-10,0000	14,9	58	0,4796	0,8881	3,5184	1,022296226	-29,36	-10,0000	12,2
42	0,4796	0,8881	3,5264	1,02512863	-31,91	-10,0000	15,0	58	0,4796	0,8881	3,5264	1,022296226	-29,25	-10,0000	12,0
42	0,4796	0,8881	3,5343	1,02512863	-31,80	-10,0000	14,9	58	0,4796	0,8881	3,5343	1,022296226	-29,38	-10,0000	12,1
42	0,4796	0,8881	3,5422	1,02512863	-31,93	-10,0000	15,0	58	0,4796	0,8881	3,5422	1,022296226	-29,29	-10,0000	12,0
42	0,4796	0,8881	3,5502	1,02512863	-31,84	-10,0000	14,9	58	0,4796	0,8881	3,5502	1,022296226	-29,40	-10,0000	12,1
43	0,4796	0,8881	3,5581	1,02494296	-31,65	-10,0000	14,7	57	0,4796	0,8881	3,5581	1,022464985	-29,61	-10,0000	12,4
43	0,4796	0,8881	3,5660	1,02494296	-31,86	-10,0000	14,9	57	0,4796	0,8881	3,5660	1,022464985	-29,45	-10,0000	12,2
43	0,4796	0,8881	3,5740	1,02494296	-31,69	-10,0000	14,7	57	0,4796	0,8881	3,5740	1,022464985	-29,62	-10,0000	12,3
43	0,4796	0,8881	3,5819	1,02494296	-31,88	-10,0000	14,9	57	0,4796	0,8881	3,5819	1,022464985	-29,49	-10,0000	12,2
43	0,4796	0,8881	3,5898	1,02494296	-31,74	-10,0000	14,7	57	0,4796	0,8881	3,5898	1,022464985	-29,64	-10,0000	12,3
43	0,4796	0,8881	3,5978	1,02494296	-31,89	-10,0000	14,9	57	0,4796	0,8881	3,5978	1,022464985	-29,53	-10,0000	12,2
43	0,4796	0,8881	3,6057	1,02494296	-31,78	-10,0000	14,7	57	0,4796	0,8881	3,6057	1,022464985	-29,66	-10,0000	12,3
43	0,4796	0,8881	3,6136	1,02494296	-31,92	-10,0000	14,9	57	0,4796	0,8881	3,6136	1,022464985	-29,57	-10,0000	12,2
43	0,4796	0,8881	3,6216	1,02494296	-31,82	-10,0000	14,7	57	0,4796	0,8881	3,6216	1,022464985	-29,68	-10,0000	12,3
44	0,4796	0,8881	3,6295	1,0247585	-31,63	-10,0000	14,5	56	0,4796	0,8881	3,6295	1,022634798	-29,89	-10,0000	12,5
44	0,4796	0,8881	3,6374	1,0247585	-31,84	-10,0000	14,7	56	0,4796	0,8881	3,6374	1,022634798	-29,72	-10,0000	12,3
44	0,4796	0,8881	3,6454	1,0247585	-31,67	-10,0000	14,5	56	0,4796	0,8881	3,6454	1,022634798	-29,90	-10,0000	12,5
44	0,4796	0,8881	3,6533	1,0247585	-31,85	-10,0000	14,7	56	0,4796	0,8881	3,6533	1,022634798	-29,76	-10,0000	12,3
44	0,4796	0,8881	3,6612	1,0247585	-31,72	-10,0000	14,5	56	0,4796	0,8881	3,6612	1,022634798	-29,92	-10,0000	12,5
44	0,4796	0,8881	3,6692	1,0247585	-31,87	-10,0000	14,7	56	0,4796	0,8881	3,6692	1,022634798	-29,80	-10,0000	12,3
44	0,4796	0,8881	3,6771	1,0247585	-31,76	-10,0000	14,5	56	0,4796	0,8881	3,6771	1,022634798	-29,94	-10,0000	12,5
44	0,4796	0,8881	3,6850	1,0247585	-31,89	-10,0000	14,7	56	0,4796	0,8881	3,6850	1,022634798	-29,84	-10,0000	12,4
44	0,4796	0,8881	3,6930	1,0247585	-31,79	-10,0000	14,5	56	0,4796	0,8881	3,6930	1,022634798	-29,96	-10,0000	12,5
45	0,4796	0,8881	3,7009	1,02457523	-31,60	-10,0000	14,3	55	0,4796	0,8881	3,7009	1,022805674	-30,16	-10,0000	12,7
45	0,4796	0,8881	3,7088	1,02457523	-31,81	-10,0000	14,5	55	0,4796	0,8881	3,7088	1,022805674	-30,00	-10,0000	12,5
45	0,4796	0,8881	3,7168	1,02457523	-31,65	-10,0000	14,3	55	0,4796	0,8881	3,7168	1,022805674	-30,18	-10,0000	12,7
45	0,4796	0,8881	3,7247	1,02457523	-31,83	-10,0000	14,5	55	0,4796	0,8881	3,7247	1,022805674	-30,04	-10,0000	12,5
45	0,4796	0,8881	3,7326	1,02457523	-31,69	-10,0000	14,3	55	0,4796	0,8881	3,7326	1,022805674	-30,20	-10,0000	12,7
45	0,4796	0,8881	3,7406	1,02457523	-31,85	-10,0000	14,5	55	0,4796	0,8881	3,7406	1,022805674	-30,07	-10,0000	12,5
45	0,4796	0,8881	3,7485	1,02457523	-31,72	-10,0000	14,3	55	0,4796	0,8881	3,7485	1,022805674	-30,21	-10,0000	12,7
45	0,4796	0,8881	3,7564	1,02457523	-31,87	-10,0000	14,5	55	0,4796	0,8881	3,7564	1,022805674	-30,11	-10,0000	12,5
45	0,4796	0,8881	3,7644	1,02457523	-31,76	-10,0000	14,4	55	0,4796	0,8881	3,7644	1,022805674	-30,23	-10,0000	12,6
46	0,4796	0,8881	3,7723	1,02439314	-31,57	-10,0000	14,1	54	0,4796	0,8881	3,7723	1,022977625	-30,44	-10,0000	12,9
46	0,4796	0,8881	3,7803	1,02439314	-31,78	-10,0000	14,3	54	0,4796	0,8881	3,7803	1,022977625	-30,27	-10,0000	12,7

46	0,4796	0,8881	3,7882	1,02439314	-31,61	-10,0000	14,1	54	0,4796	0,8881	3,7882	1,022977625	-30,45	-10,0000	12,8
46	0,4796	0,8881	3,7961	1,02439314	-31,79	-10,0000	14,3	54	0,4796	0,8881	3,7961	1,022977625	-30,31	-10,0000	12,7
46	0,4796	0,8881	3,8041	1,02439314	-31,65	-10,0000	14,2	54	0,4796	0,8881	3,8041	1,022977625	-30,47	-10,0000	12,8
46	0,4796	0,8881	3,8120	1,02439314	-31,81	-10,0000	14,3	54	0,4796	0,8881	3,8120	1,022977625	-30,34	-10,0000	12,7
46	0,4796	0,8881	3,8199	1,02439314	-31,69	-10,0000	14,2	54	0,4796	0,8881	3,8199	1,022977625	-30,49	-10,0000	12,8
46	0,4796	0,8881	3,8279	1,02439314	-31,83	-10,0000	14,3	54	0,4796	0,8881	3,8279	1,022977625	-30,38	-10,0000	12,7
46	0,4796	0,8881	3,8358	1,02439314	-31,72	-10,0000	14,2	54	0,4796	0,8881	3,8358	1,022977625	-30,51	-10,0000	12,8
47	0,4796	0,8881	3,8437	1,02421222	-31,54	-10,0000	13,9	53	0,4796	0,8881	3,8437	1,02315066	-30,71	-10,0000	13,0
47	0,4796	0,8881	3,8517	1,02421222	-31,74	-10,0000	14,2	53	0,4796	0,8881	3,8517	1,02315066	-30,54	-10,0000	12,8
47	0,4796	0,8881	3,8596	1,02421222	-31,57	-10,0000	14,0	53	0,4796	0,8881	3,8596	1,02315066	-30,73	-10,0000	13,0
47	0,4796	0,8881	3,8675	1,02421222	-31,75	-10,0000	14,1	53	0,4796	0,8881	3,8675	1,02315066	-30,58	-10,0000	12,8
47	0,4796	0,8881	3,8755	1,02421222	-31,61	-10,0000	14,0	53	0,4796	0,8881	3,8755	1,02315066	-30,74	-10,0000	13,0
47	0,4796	0,8881	3,8834	1,02421222	-31,77	-10,0000	14,1	53	0,4796	0,8881	3,8834	1,02315066	-30,61	-10,0000	12,8
47	0,4796	0,8881	3,8913	1,02421222	-31,65	-10,0000	14,0	53	0,4796	0,8881	3,8913	1,02315066	-30,76	-10,0000	13,0
47	0,4796	0,8881	3,8993	1,02421222	-31,79	-10,0000	14,1	53	0,4796	0,8881	3,8993	1,02315066	-30,64	-10,0000	12,9
47	0,4796	0,8881	3,9072	1,02421222	-31,68	-10,0000	14,0	53	0,4796	0,8881	3,9072	1,02315066	-30,78	-10,0000	13,0
48	0,4796	0,8881	3,9151	1,02403246	-31,50	-10,0000	13,8	52	0,4796	0,8881	3,9151	1,023324789	-30,98	-10,0000	13,2
48	0,4796	0,8881	3,9231	1,02403246	-31,69	-10,0000	14,0	52	0,4796	0,8881	3,9231	1,023324789	-30,81	-10,0000	13,0
48	0,4796	0,8881	3,9310	1,02403246	-31,53	-10,0000	13,8	52	0,4796	0,8881	3,9310	1,023324789	-31,00	-10,0000	13,2
48	0,4796	0,8881	3,9389	1,02403246	-31,71	-10,0000	14,0	52	0,4796	0,8881	3,9389	1,023324789	-30,85	-10,0000	13,0
48	0,4796	0,8881	3,9469	1,02403246	-31,57	-10,0000	13,8	52	0,4796	0,8881	3,9469	1,023324789	-31,01	-10,0000	13,2
48	0,4796	0,8881	3,9548	1,02403246	-31,73	-10,0000	14,0	52	0,4796	0,8881	3,9548	1,023324789	-30,88	-10,0000	13,0
48	0,4796	0,8881	3,9627	1,02403246	-31,60	-10,0000	13,8	52	0,4796	0,8881	3,9627	1,023324789	-31,03	-10,0000	13,2
48	0,4796	0,8881	3,9707	1,02403246	-31,75	-10,0000	13,9	52	0,4796	0,8881	3,9707	1,023324789	-30,91	-10,0000	13,0
48	0,4796	0,8881	3,9786	1,02403246	-31,63	-10,0000	13,8	52	0,4796	0,8881	3,9786	1,023324789	-31,05	-10,0000	13,2
49	0,4796	0,8881	3,9865	1,02385385	-31,45	-10,0000	13,6	51	0,4796	0,8881	3,9865	1,023500023	-31,25	-10,0000	13,4
49	0,4796	0,8881	3,9945	1,02385385	-31,65	-10,0000	13,8	51	0,4796	0,8881	3,9945	1,023500023	-31,08	-10,0000	13,2
49	0,4796	0,8881	4,0024	1,02385385	-31,48	-10,0000	13,6	51	0,4796	0,8881	4,0024	1,023500023	-31,27	-10,0000	13,4
49	0,4796	0,8881	4,0103	1,02385385	-31,66	-10,0000	13,8	51	0,4796	0,8881	4,0103	1,023500023	-31,11	-10,0000	13,2
49	0,4796	0,8881	4,0183	1,02385385	-31,51	-10,0000	13,6	51	0,4796	0,8881	4,0183	1,023500023	-31,28	-10,0000	13,4
49	0,4796	0,8881	4,0262	1,02385385	-31,68	-10,0000	13,8	51	0,4796	0,8881	4,0262	1,023500023	-31,14	-10,0000	13,2
49	0,4796	0,8881	4,0342	1,02385385	-31,55	-10,0000	13,6	51	0,4796	0,8881	4,0342	1,023500023	-31,30	-10,0000	13,3
49	0,4796	0,8881	4,0421	1,02385385	-31,70	-10,0000	13,8	51	0,4796	0,8881	4,0421	1,023500023	-31,17	-10,0000	13,2
49	0,4796	0,8881	4,0500	1,02385385	-31,58	-10,0000	13,6	51	0,4796	0,8881	4,0500	1,023500023	-31,32	-10,0000	13,3
50	0,4796	0,8881	4,0580	1,02367637	-31,40	-10,0000	13,4	50	0,4796	0,8881	4,0580	1,023676372	-31,52	-10,0000	13,5
50	0,4796	0,8881	4,0659	1,02367637	-31,59	-10,0000	13,6	50	0,4796	0,8881	4,0659	1,023676372	-31,35	-10,0000	13,3
50	0,4796	0,8881	4,0738	1,02367637	-31,43	-10,0000	13,4	50	0,4796	0,8881	4,0738	1,023676372	-31,53	-10,0000	13,5
50	0,4796	0,8881	4,0818	1,02367637	-31,61	-10,0000	13,6	50	0,4796	0,8881	4,0818	1,023676372	-31,38	-10,0000	13,4
50	0,4796	0,8881	4,0897	1,02367637	-31,46	-10,0000	13,4	50	0,4796	0,8881	4,0897	1,023676372	-31,55	-10,0000	13,5
50	0,4796	0,8881	4,0976	1,02367637	-31,62	-10,0000	13,6	50	0,4796	0,8881	4,0976	1,023676372	-31,41	-10,0000	13,4
50	0,4796	0,8881	4,1056	1,02367637	-31,49	-10,0000	13,4	50	0,4796	0,8881	4,1056	1,023676372	-31,57	-10,0000	13,5
50	0,4796	0,8881	4,1135	1,02367637	-31,64	-10,0000	13,6	50	0,4796	0,8881	4,1135	1,023676372	-31,44	-10,0000	13,4
50	0,4796	0,8881	4,1214	1,02367637	-31,52	-10,0000	13,4	50	0,4796	0,8881	4,1214	1,023676372	-31,59	-10,0000	13,5
51	0,4796	0,8881	4,1294	1,02350002	-31,34	-10,0000	13,2	49	0,4796	0,8881	4,1294	1,023853847	-31,78	-10,0000	13,7
51	0,4796	0,8881	4,1373	1,02350002	-31,53	-10,0000	13,4	49	0,4796	0,8881	4,1373	1,023853847	-31,62	-10,0000	13,5
51	0,4796	0,8881	4,1452	1,02350002	-31,37	-10,0000	13,2	49	0,4796	0,8881	4,1452	1,023853847	-31,80	-10,0000	13,7
51	0,4796	0,8881	4,1532	1,02350002	-31,55	-10,0000	13,4	49	0,4796	0,8881	4,1532	1,023853847	-31,64	-10,0000	13,5
51	0,4796	0,8881	4,1611	1,02350002	-31,40	-10,0000	13,3	49	0,4796	0,8881	4,1611	1,023853847	-31,82	-10,0000	13,7
51	0,4796	0,8881	4,1690	1,02350002	-31,57	-10,0000	13,4	49	0,4796	0,8881	4,1690	1,023853847	-31,67	-10,0000	13,5
51	0,4796	0,8881	4,1770	1,02350002	-31,43	-10,0000	13,3	49	0,4796	0,8881	4,1770	1,023853847	-31,83	-10,0000	13,7
51	0,4796	0,8881	4,1849	1,02350002	-31,58	-10,0000	13,4	49	0,4796	0,8881	4,1849	1,023853847	-31,70	-10,0000	13,5
51	0,4796	0,8881	4,1928	1,02350002	-31,46	-10,0000	13,3	49	0,4796	0,8881	4,1928	1,023853847	-31,85	-10,0000	13,7
52	0,4796	0,8881	4,2008	1,02332479	-31,28	-10,0000	13,1	48	0,4796	0,8881	4,2008	1,024032459	-32,05	-10,0000	13,9
52	0,4796	0,8881	4,2087	1,02332479	-31,47	-10,0000	13,3	48	0,4796	0,8881	4,2087	1,024032459	-31,88	-10,0000	13,7
52	0,4796	0,8881	4,2166	1,02332479	-31,31	-10,0000	13,1	48	0,4796	0,8881	4,2166	1,024032459	-32,07	-10,0000	13,9

52	0,4796	0,8881	4,2246	1,02332479	-31,49	-10,0000	13,3	48	0,4796	0,8881	4,2246	1,024032459	-31,91	-10,0000	13,7
52	0,4796	0,8881	4,2325	1,02332479	-31,34	-10,0000	13,1	48	0,4796	0,8881	4,2325	1,024032459	-32,08	-10,0000	13,9
52	0,4796	0,8881	4,2404	1,02332479	-31,50	-10,0000	13,2	48	0,4796	0,8881	4,2404	1,024032459	-31,94	-10,0000	13,7
52	0,4796	0,8881	4,2484	1,02332479	-31,37	-10,0000	13,1	48	0,4796	0,8881	4,2484	1,024032459	-32,10	-10,0000	13,9
52	0,4796	0,8881	4,2563	1,02332479	-31,52	-10,0000	13,2	48	0,4796	0,8881	4,2563	1,024032459	-31,96	-10,0000	13,7
52	0,4796	0,8881	4,2642	1,02332479	-31,39	-10,0000	13,1	48	0,4796	0,8881	4,2642	1,024032459	-32,12	-10,0000	13,9
53	0,4796	0,8881	4,2722	1,02315066	-31,22	-10,0000	12,9	47	0,4796	0,8881	4,2722	1,024212219	-32,31	-10,0000	14,1
53	0,4796	0,8881	4,2801	1,02315066	-31,41	-10,0000	13,1	47	0,4796	0,8881	4,2801	1,024212219	-32,15	-10,0000	13,9
53	0,4796	0,8881	4,2881	1,02315066	-31,25	-10,0000	12,9	47	0,4796	0,8881	4,2881	1,024212219	-32,33	-10,0000	14,1
53	0,4796	0,8881	4,2960	1,02315066	-31,42	-10,0000	13,1	47	0,4796	0,8881	4,2960	1,024212219	-32,17	-10,0000	13,9
53	0,4796	0,8881	4,3039	1,02315066	-31,27	-10,0000	12,9	47	0,4796	0,8881	4,3039	1,024212219	-32,35	-10,0000	14,1
53	0,4796	0,8881	4,3119	1,02315066	-31,44	-10,0000	13,1	47	0,4796	0,8881	4,3119	1,024212219	-32,20	-10,0000	13,9
53	0,4796	0,8881	4,3198	1,02315066	-31,30	-10,0000	12,9	47	0,4796	0,8881	4,3198	1,024212219	-32,37	-10,0000	14,1
53	0,4796	0,8881	4,3277	1,02315066	-31,45	-10,0000	13,1	47	0,4796	0,8881	4,3277	1,024212219	-32,22	-10,0000	13,9
53	0,4796	0,8881	4,3357	1,02315066	-31,32	-10,0000	12,9	47	0,4796	0,8881	4,3357	1,024212219	-32,38	-10,0000	14,1
54	0,4796	0,8881	4,3436	1,02297762	-31,15	-10,0000	12,7	46	0,4796	0,8881	4,3436	1,024393137	-32,58	-10,0000	14,3
54	0,4796	0,8881	4,3515	1,02297762	-31,34	-10,0000	12,9	46	0,4796	0,8881	4,3515	1,024393137	-32,41	-10,0000	14,1
54	0,4796	0,8881	4,3595	1,02297762	-31,18	-10,0000	12,7	46	0,4796	0,8881	4,3595	1,024393137	-32,59	-10,0000	14,2
54	0,4796	0,8881	4,3674	1,02297762	-31,35	-10,0000	12,9	46	0,4796	0,8881	4,3674	1,024393137	-32,43	-10,0000	14,1
54	0,4796	0,8881	4,3753	1,02297762	-31,20	-10,0000	12,7	46	0,4796	0,8881	4,3753	1,024393137	-32,61	-10,0000	14,2
54	0,4796	0,8881	4,3833	1,02297762	-31,37	-10,0000	12,9	46	0,4796	0,8881	4,3833	1,024393137	-32,46	-10,0000	14,1
54	0,4796	0,8881	4,3912	1,02297762	-31,23	-10,0000	12,7	46	0,4796	0,8881	4,3912	1,024393137	-32,63	-10,0000	14,2
54	0,4796	0,8881	4,3991	1,02297762	-31,38	-10,0000	12,9	46	0,4796	0,8881	4,3991	1,024393137	-32,48	-10,0000	14,1
54	0,4796	0,8881	4,4071	1,02297762	-31,25	-10,0000	12,7	46	0,4796	0,8881	4,4071	1,024393137	-32,65	-10,0000	14,2
55	0,4796	0,8881	4,4150	1,02280567	-31,08	-10,0000	12,6	45	0,4796	0,8881	4,4150	1,024575226	-32,84	-10,0000	14,4
55	0,4796	0,8881	4,4229	1,02280567	-31,26	-10,0000	12,7	45	0,4796	0,8881	4,4229	1,024575226	-32,67	-10,0000	14,2
55	0,4796	0,8881	4,4309	1,02280567	-31,11	-10,0000	12,6	45	0,4796	0,8881	4,4309	1,024575226	-32,86	-10,0000	14,4
55	0,4796	0,8881	4,4388	1,02280567	-31,28	-10,0000	12,7	45	0,4796	0,8881	4,4388	1,024575226	-32,70	-10,0000	14,2
55	0,4796	0,8881	4,4467	1,02280567	-31,13	-10,0000	12,6	45	0,4796	0,8881	4,4467	1,024575226	-32,88	-10,0000	14,4
55	0,4796	0,8881	4,4547	1,02280567	-31,30	-10,0000	12,7	45	0,4796	0,8881	4,4547	1,024575226	-32,72	-10,0000	14,2
55	0,4796	0,8881	4,4626	1,02280567	-31,15	-10,0000	12,6	45	0,4796	0,8881	4,4626	1,024575226	-32,89	-10,0000	14,4
55	0,4796	0,8881	4,4705	1,02280567	-31,31	-10,0000	12,7	45	0,4796	0,8881	4,4705	1,024575226	-32,74	-10,0000	14,2
55	0,4796	0,8881	4,4785	1,02280567	-31,17	-10,0000	12,6	45	0,4796	0,8881	4,4785	1,024575226	-32,91	-10,0000	14,4
56	0,4796	0,8881	4,4864	1,0226348	-31,01	-10,0000	12,4	44	0,4796	0,8881	4,4864	1,024758496	-33,10	-10,0000	14,6
56	0,4796	0,8881	4,4943	1,0226348	-31,19	-10,0000	12,6	44	0,4796	0,8881	4,4943	1,024758496	-32,93	-10,0000	14,4
56	0,4796	0,8881	4,5023	1,0226348	-31,03	-10,0000	12,4	44	0,4796	0,8881	4,5023	1,024758496	-33,12	-10,0000	14,6
56	0,4796	0,8881	4,5102	1,0226348	-31,20	-10,0000	12,6	44	0,4796	0,8881	4,5102	1,024758496	-32,96	-10,0000	14,4
56	0,4796	0,8881	4,5181	1,0226348	-31,05	-10,0000	12,4	44	0,4796	0,8881	4,5181	1,024758496	-33,14	-10,0000	14,6
56	0,4796	0,8881	4,5261	1,0226348	-31,22	-10,0000	12,6	44	0,4796	0,8881	4,5261	1,024758496	-32,98	-10,0000	14,4
56	0,4796	0,8881	4,5340	1,0226348	-31,08	-10,0000	12,4	44	0,4796	0,8881	4,5340	1,024758496	-33,16	-10,0000	14,6
56	0,4796	0,8881	4,5420	1,0226348	-31,23	-10,0000	12,6	44	0,4796	0,8881	4,5420	1,024758496	-33,00	-10,0000	14,4
56	0,4796	0,8881	4,5499	1,0226348	-31,10	-10,0000	12,4	44	0,4796	0,8881	4,5499	1,024758496	-33,18	-10,0000	14,6
57	0,4796	0,8881	4,5578	1,02246498	-30,94	-10,0000	12,2	43	0,4796	0,8881	4,5578	1,02494296	-33,36	-10,0000	14,8
57	0,4796	0,8881	4,5658	1,02246498	-31,11	-10,0000	12,4	43	0,4796	0,8881	4,5658	1,02494296	-33,20	-10,0000	14,6
57	0,4796	0,8881	4,5737	1,02246498	-30,96	-10,0000	12,2	43	0,4796	0,8881	4,5737	1,02494296	-33,38	-10,0000	14,8
57	0,4796	0,8881	4,5816	1,02246498	-31,13	-10,0000	12,4	43	0,4796	0,8881	4,5816	1,02494296	-33,22	-10,0000	14,6
57	0,4796	0,8881	4,5896	1,02246498	-30,98	-10,0000	12,2	43	0,4796	0,8881	4,5896	1,02494296	-33,40	-10,0000	14,8
57	0,4796	0,8881	4,5975	1,02246498	-31,14	-10,0000	12,4	43	0,4796	0,8881	4,5975	1,02494296	-33,24	-10,0000	14,6
57	0,4796	0,8881	4,6054	1,02246498	-31,00	-10,0000	12,2	43	0,4796	0,8881	4,6054	1,02494296	-33,42	-10,0000	14,8
57	0,4796	0,8881	4,6134	1,02246498	-31,16	-10,0000	12,4	43	0,4796	0,8881	4,6134	1,02494296	-33,26	-10,0000	14,6
57	0,4796	0,8881	4,6213	1,02246498	-31,01	-10,0000	12,2	43	0,4796	0,8881	4,6213	1,02494296	-33,44	-10,0000	14,8
58	0,4796	0,8881	4,6292	1,02229623	-30,86	-10,0000	12,1	42	0,4796	0,8881	4,6292	1,025128628	-33,63	-10,0000	15,0
58	0,4796	0,8881	4,6372	1,02229623	-31,03	-10,0000	12,2	42	0,4796	0,8881	4,6372	1,025128628	-33,46	-10,0000	14,8
58	0,4796	0,8881	4,6451	1,02229623	-30,88	-10,0000	12,1	42	0,4796	0,8881	4,6451	1,025128628	-33,64	-10,0000	15,0
58	0,4796	0,8881	4,6530	1,02229623	-31,04	-10,0000	12,2	42	0,4796	0,8881	4,6530	1,025128628	-33,48	-10,0000	14,8

58	0,4796	0,8881	4,6610	1,02229623	-30,89	-10,0000	12,1	42	0,4796	0,8881	4,6610	1,025128628	-33,66	-10,0000	15,0
58	0,4796	0,8881	4,6689	1,02229623	-31,06	-10,0000	12,2	42	0,4796	0,8881	4,6689	1,025128628	-33,50	-10,0000	14,8
58	0,4796	0,8881	4,6768	1,02229623	-30,91	-10,0000	12,1	42	0,4796	0,8881	4,6768	1,025128628	-33,68	-10,0000	15,0
58	0,4796	0,8881	4,6848	1,02229623	-31,07	-10,0000	12,2	42	0,4796	0,8881	4,6848	1,025128628	-33,52	-10,0000	14,8
58	0,4796	0,8881	4,6927	1,02229623	-30,93	-10,0000	12,1	42	0,4796	0,8881	4,6927	1,025128628	-33,70	-10,0000	15,0
59	0,4796	0,8881	4,7006	1,02212851	-30,78	-10,0000	11,9	41	0,4796	0,8881	4,7006	1,025315512	-33,89	-10,0000	15,2
59	0,4796	0,8881	4,7086	1,02212851	-30,95	-10,0000	12,1	41	0,4796	0,8881	4,7086	1,025315512	-33,72	-10,0000	15,0
59	0,4796	0,8881	4,7165	1,02212851	-30,79	-10,0000	11,9	41	0,4796	0,8881	4,7165	1,025315512	-33,91	-10,0000	15,2
59	0,4796	0,8881	4,7244	1,02212851	-30,96	-10,0000	12,1	41	0,4796	0,8881	4,7244	1,025315512	-33,74	-10,0000	15,0
59	0,4796	0,8881	4,7324	1,02212851	-30,81	-10,0000	11,9	41	0,4796	0,8881	4,7324	1,025315512	-33,93	-10,0000	15,2
59	0,4796	0,8881	4,7403	1,02212851	-30,98	-10,0000	12,1	41	0,4796	0,8881	4,7403	1,025315512	-33,76	-10,0000	15,0
59	0,4796	0,8881	4,7482	1,02212851	-30,83	-10,0000	11,9	41	0,4796	0,8881	4,7482	1,025315512	-33,94	-10,0000	15,2
59	0,4796	0,8881	4,7562	1,02212851	-30,99	-10,0000	12,1	41	0,4796	0,8881	4,7562	1,025315512	-33,78	-10,0000	15,0
59	0,4796	0,8881	4,7641	1,02212851	-30,85	-10,0000	11,9	41	0,4796	0,8881	4,7641	1,025315512	-33,96	-10,0000	15,2
60	0,4796	0,8881	4,7720	1,02196183	-30,69	-10,0000	11,7	40	0,4796	0,8881	4,7720	1,025503625	-34,15	-10,0000	15,3
60	0,4796	0,8881	4,7800	1,02196183	-30,86	-10,0000	11,9	40	0,4796	0,8881	4,7800	1,025503625	-33,98	-10,0000	15,2
60	0,4796	0,8881	4,7879	1,02196183	-30,71	-10,0000	11,7	40	0,4796	0,8881	4,7879	1,025503625	-34,17	-10,0000	15,3
60	0,4796	0,8881	4,7958	1,02196183	-30,87	-10,0000	11,9	40	0,4796	0,8881	4,7958	1,025503625	-34,00	-10,0000	15,2
60	0,4796	0,8881	4,8038	1,02196183	-30,72	-10,0000	11,7	40	0,4796	0,8881	4,8038	1,025503625	-34,19	-10,0000	15,3
60	0,4796	0,8881	4,8117	1,02196183	-30,89	-10,0000	11,9	40	0,4796	0,8881	4,8117	1,025503625	-34,02	-10,0000	15,2
60	0,4796	0,8881	4,8197	1,02196183	-30,74	-10,0000	11,7	40	0,4796	0,8881	4,8197	1,025503625	-34,21	-10,0000	15,3
60	0,4796	0,8881	4,8276	1,02196183	-30,90	-10,0000	11,9	40	0,4796	0,8881	4,8276	1,025503625	-34,03	-10,0000	15,2
60	0,4796	0,8881	4,8355	1,02196183	-30,76	-10,0000	11,7	40	0,4796	0,8881	4,8355	1,025503625	-34,23	-10,0000	15,3
61	0,4796	0,8881	4,8435	1,02179618	-30,61	-10,0000	11,6	39	0,4796	0,8881	4,8435	1,025692979	-34,41	-10,0000	15,5
61	0,4796	0,8881	4,8514	1,02179618	-30,77	-10,0000	11,7	39	0,4796	0,8881	4,8514	1,025692979	-34,24	-10,0000	15,3
61	0,4796	0,8881	4,8593	1,02179618	-30,62	-10,0000	11,6	39	0,4796	0,8881	4,8593	1,025692979	-34,43	-10,0000	15,5
61	0,4796	0,8881	4,8673	1,02179618	-30,79	-10,0000	11,7	39	0,4796	0,8881	4,8673	1,025692979	-34,26	-10,0000	15,3
61	0,4796	0,8881	4,8752	1,02179618	-30,64	-10,0000	11,6	39	0,4796	0,8881	4,8752	1,025692979	-34,45	-10,0000	15,5
61	0,4796	0,8881	4,8831	1,02179618	-30,80	-10,0000	11,7	39	0,4796	0,8881	4,8831	1,025692979	-34,28	-10,0000	15,3
61	0,4796	0,8881	4,8911	1,02179618	-30,65	-10,0000	11,6	39	0,4796	0,8881	4,8911	1,025692979	-34,47	-10,0000	15,5
61	0,4796	0,8881	4,8990	1,02179618	-30,82	-10,0000	11,7	39	0,4796	0,8881	4,8990	1,025692979	-34,29	-10,0000	15,3
61	0,4796	0,8881	4,9069	1,02179618	-30,67	-10,0000	11,6	39	0,4796	0,8881	4,9069	1,025692979	-34,49	-10,0000	15,5
62	0,4796	0,8881	4,9149	1,02163154	-30,52	-10,0000	11,4	38	0,4796	0,8881	4,9149	1,025883586	-34,67	-10,0000	15,7
62	0,4796	0,8881	4,9228	1,02163154	-30,68	-10,0000	11,6	38	0,4796	0,8881	4,9228	1,025883586	-34,50	-10,0000	15,5
62	0,4796	0,8881	4,9307	1,02163154	-30,53	-10,0000	11,4	38	0,4796	0,8881	4,9307	1,025883586	-34,69	-10,0000	15,7
62	0,4796	0,8881	4,9387	1,02163154	-30,70	-10,0000	11,6	38	0,4796	0,8881	4,9387	1,025883586	-34,52	-10,0000	15,5
62	0,4796	0,8881	4,9466	1,02163154	-30,55	-10,0000	11,4	38	0,4796	0,8881	4,9466	1,025883586	-34,71	-10,0000	15,7
62	0,4796	0,8881	4,9545	1,02163154	-30,71	-10,0000	11,6	38	0,4796	0,8881	4,9545	1,025883586	-34,53	-10,0000	15,5
62	0,4796	0,8881	4,9625	1,02163154	-30,56	-10,0000	11,4	38	0,4796	0,8881	4,9625	1,025883586	-34,73	-10,0000	15,7
62	0,4796	0,8881	4,9704	1,02163154	-30,73	-10,0000	11,6	38	0,4796	0,8881	4,9704	1,025883586	-34,55	-10,0000	15,5
62	0,4796	0,8881	4,9783	1,02163154	-30,57	-10,0000	11,4	38	0,4796	0,8881	4,9783	1,025883586	-34,75	-10,0000	15,7
63	0,4796	0,8881	4,9863	1,0214679	-30,43	-10,0000	11,2	37	0,4796	0,8881	4,9863	1,026075458	-34,93	-10,0000	15,9
63	0,4796	0,8881	4,9942	1,0214679	-30,59	-10,0000	11,4	37	0,4796	0,8881	4,9942	1,026075458	-34,77	-10,0000	15,7
63	0,4796	0,8881	5,0021	1,0214679	-30,44	-10,0000	11,2	37	0,4796	0,8881	5,0021	1,026075458	-34,95	-10,0000	15,9
63	0,4796	0,8881	5,0101	1,0214679	-30,60	-10,0000	11,4	37	0,4796	0,8881	5,0101	1,026075458	-34,78	-10,0000	15,7
63	0,4796	0,8881	5,0180	1,0214679	-30,45	-10,0000	11,2	37	0,4796	0,8881	5,0180	1,026075458	-34,97	-10,0000	15,9
63	0,4796	0,8881	5,0259	1,0214679	-30,62	-10,0000	11,4	37	0,4796	0,8881	5,0259	1,026075458	-34,79	-10,0000	15,7
63	0,4796	0,8881	5,0339	1,0214679	-30,47	-10,0000	11,2	37	0,4796	0,8881	5,0339	1,026075458	-34,99	-10,0000	15,9
63	0,4796	0,8881	5,0418	1,0214679	-30,63	-10,0000	11,4	37	0,4796	0,8881	5,0418	1,026075458	-34,81	-10,0000	15,7
63	0,4796	0,8881	5,0497	1,0214679	-30,48	-10,0000	11,2	37	0,4796	0,8881	5,0497	1,026075458	-35,01	-10,0000	15,9
64	0,4796	0,8881	5,0577	1,02130527	-30,34	-10,0000	11,1	36	0,4796	0,8881	5,0577	1,026268609	-35,19	-10,0000	16,1
64	0,4796	0,8881	5,0656	1,02130527	-30,50	-10,0000	11,2	36	0,4796	0,8881	5,0656	1,026268609	-35,03	-10,0000	15,9
64	0,4796	0,8881	5,0736	1,02130527	-30,35	-10,0000	11,1	36	0,4796	0,8881	5,0736	1,026268609	-35,21	-10,0000	16,1
64	0,4796	0,8881	5,0815	1,02130527	-30,51	-10,0000	11,2	36	0,4796	0,8881	5,0815	1,026268609	-35,04	-10,0000	15,9
64	0,4796	0,8881	5,0894	1,02130527	-30,36	-10,0000	11,1	36	0,4796	0,8881	5,0894	1,026268609	-35,23	-10,0000	16,1

64	0,4796	0,8881	5,0974	1,02130527	-30,52	-10,0000	11,2	36	0,4796	0,8881	5,0974	1,026268609	-35,05	-10,0000	15,9
64	0,4796	0,8881	5,1053	1,02130527	-30,37	-10,0000	11,1	36	0,4796	0,8881	5,1053	1,026268609	-35,26	-10,0000	16,1
64	0,4796	0,8881	5,1132	1,02130527	-30,54	-10,0000	11,2	36	0,4796	0,8881	5,1132	1,026268609	-35,07	-10,0000	15,9
64	0,4796	0,8881	5,1212	1,02130527	-30,38	-10,0000	11,1	36	0,4796	0,8881	5,1212	1,026268609	-35,28	-10,0000	16,1
65	0,4796	0,8881	5,1291	1,02114362	-30,24	-10,0000	10,9	35	0,4796	0,8881	5,1291	1,02646305	-35,46	-10,0000	16,3
65	0,4796	0,8881	5,1370	1,02114362	-30,40	-10,0000	11,1	35	0,4796	0,8881	5,1370	1,02646305	-35,29	-10,0000	16,1
65	0,4796	0,8881	5,1450	1,02114362	-30,25	-10,0000	10,9	35	0,4796	0,8881	5,1450	1,02646305	-35,48	-10,0000	16,3
65	0,4796	0,8881	5,1529	1,02114362	-30,41	-10,0000	11,1	35	0,4796	0,8881	5,1529	1,02646305	-35,30	-10,0000	16,1
65	0,4796	0,8881	5,1608	1,02114362	-30,26	-10,0000	10,9	35	0,4796	0,8881	5,1608	1,02646305	-35,50	-10,0000	16,3
65	0,4796	0,8881	5,1688	1,02114362	-30,43	-10,0000	11,1	35	0,4796	0,8881	5,1688	1,02646305	-35,31	-10,0000	16,1
65	0,4796	0,8881	5,1767	1,02114362	-30,28	-10,0000	10,9	35	0,4796	0,8881	5,1767	1,02646305	-35,52	-10,0000	16,3
65	0,4796	0,8881	5,1846	1,02114362	-30,44	-10,0000	11,1	35	0,4796	0,8881	5,1846	1,02646305	-35,32	-10,0000	16,1
65	0,4796	0,8881	5,1926	1,02114362	-30,29	-10,0000	10,9	35	0,4796	0,8881	5,1926	1,02646305	-35,54	-10,0000	16,3
66	0,4796	0,8881	5,2005	1,02098295	-30,15	-10,0000	10,8	34	0,4796	0,8881	5,2005	1,026658796	-35,72	-10,0000	16,5
66	0,4796	0,8881	5,2084	1,02098295	-30,30	-10,0000	10,9	34	0,4796	0,8881	5,2084	1,026658796	-35,55	-10,0000	16,3
66	0,4796	0,8881	5,2164	1,02098295	-30,16	-10,0000	10,7	34	0,4796	0,8881	5,2164	1,026658796	-35,74	-10,0000	16,5
66	0,4796	0,8881	5,2243	1,02098295	-30,32	-10,0000	10,9	34	0,4796	0,8881	5,2243	1,026658796	-35,56	-10,0000	16,3
66	0,4796	0,8881	5,2322	1,02098295	-30,17	-10,0000	10,7	34	0,4796	0,8881	5,2322	1,026658796	-35,76	-10,0000	16,5
66	0,4796	0,8881	5,2402	1,02098295	-30,33	-10,0000	10,9	34	0,4796	0,8881	5,2402	1,026658796	-35,57	-10,0000	16,3
66	0,4796	0,8881	5,2481	1,02098295	-30,18	-10,0000	10,7	34	0,4796	0,8881	5,2481	1,026658796	-35,78	-10,0000	16,5
66	0,4796	0,8881	5,2560	1,02098295	-30,35	-10,0000	10,9	34	0,4796	0,8881	5,2560	1,026658796	-35,58	-10,0000	16,3
66	0,4796	0,8881	5,2640	1,02098295	-30,19	-10,0000	10,7	34	0,4796	0,8881	5,2640	1,026658796	-35,80	-10,0000	16,5
67	0,4796	0,8881	5,2719	1,02082325	-30,05	-10,0000	10,6	33	0,4796	0,8881	5,2719	1,026855858	-35,98	-10,0000	16,7
67	0,4796	0,8881	5,2798	1,02082325	-30,20	-10,0000	10,7	33	0,4796	0,8881	5,2798	1,026855858	-35,81	-10,0000	16,5
67	0,4796	0,8881	5,2878	1,02082325	-30,06	-10,0000	10,6	33	0,4796	0,8881	5,2878	1,026855858	-36,00	-10,0000	16,7
67	0,4796	0,8881	5,2957	1,02082325	-30,22	-10,0000	10,7	33	0,4796	0,8881	5,2957	1,026855858	-35,82	-10,0000	16,5
67	0,4796	0,8881	5,3036	1,02082325	-30,07	-10,0000	10,6	33	0,4796	0,8881	5,3036	1,026855858	-36,02	-10,0000	16,7
67	0,4796	0,8881	5,3116	1,02082325	-30,23	-10,0000	10,7	33	0,4796	0,8881	5,3116	1,026855858	-35,83	-10,0000	16,5
67	0,4796	0,8881	5,3195	1,02082325	-30,08	-10,0000	10,6	33	0,4796	0,8881	5,3195	1,026855858	-36,04	-10,0000	16,7
67	0,4796	0,8881	5,3275	1,02082325	-30,25	-10,0000	10,8	33	0,4796	0,8881	5,3275	1,026855858	-35,84	-10,0000	16,5
67	0,4796	0,8881	5,3354	1,02082325	-30,09	-10,0000	10,6	33	0,4796	0,8881	5,3354	1,026855858	-36,07	-10,0000	16,7
68	0,4796	0,8881	5,3433	1,02066451	-29,95	-10,0000	10,4	32	0,4796	0,8881	5,3433	1,027054251	-36,24	-10,0000	16,9
68	0,4796	0,8881	5,3513	1,02066451	-30,10	-10,0000	10,6	32	0,4796	0,8881	5,3513	1,027054251	-36,08	-10,0000	16,7
68	0,4796	0,8881	5,3592	1,02066451	-29,96	-10,0000	10,4	32	0,4796	0,8881	5,3592	1,027054251	-36,26	-10,0000	16,9
68	0,4796	0,8881	5,3671	1,02066451	-30,12	-10,0000	10,6	32	0,4796	0,8881	5,3671	1,027054251	-36,09	-10,0000	16,7
68	0,4796	0,8881	5,3751	1,02066451	-29,97	-10,0000	10,4	32	0,4796	0,8881	5,3751	1,027054251	-36,29	-10,0000	16,9
68	0,4796	0,8881	5,3830	1,02066451	-30,13	-10,0000	10,6	32	0,4796	0,8881	5,3830	1,027054251	-36,09	-10,0000	16,7
68	0,4796	0,8881	5,3909	1,02066451	-29,98	-10,0000	10,4	32	0,4796	0,8881	5,3909	1,027054251	-36,31	-10,0000	16,9
68	0,4796	0,8881	5,3989	1,02066451	-30,15	-10,0000	10,6	32	0,4796	0,8881	5,3989	1,027054251	-36,10	-10,0000	16,7
68	0,4796	0,8881	5,4068	1,02066451	-29,99	-10,0000	10,4	32	0,4796	0,8881	5,4068	1,027054251	-36,33	-10,0000	16,9
69	0,4796	0,8881	5,4147	1,02050673	-29,85	-10,0000	10,3	31	0,4796	0,8881	5,4147	1,027253988	-36,51	-10,0000	17,1
69	0,4796	0,8881	5,4227	1,02050673	-30,00	-10,0000	10,4	31	0,4796	0,8881	5,4227	1,027253988	-36,34	-10,0000	16,9
69	0,4796	0,8881	5,4306	1,02050673	-29,86	-10,0000	10,3	31	0,4796	0,8881	5,4306	1,027253988	-36,53	-10,0000	17,1
69	0,4796	0,8881	5,4385	1,02050673	-30,02	-10,0000	10,4	31	0,4796	0,8881	5,4385	1,027253988	-36,35	-10,0000	16,9
69	0,4796	0,8881	5,4465	1,02050673	-29,87	-10,0000	10,3	31	0,4796	0,8881	5,4465	1,027253988	-36,55	-10,0000	17,1
69	0,4796	0,8881	5,4544	1,02050673	-30,03	-10,0000	10,4	31	0,4796	0,8881	5,4544	1,027253988	-36,36	-10,0000	16,9
69	0,4796	0,8881	5,4623	1,02050673	-29,88	-10,0000	10,3	31	0,4796	0,8881	5,4623	1,027253988	-36,57	-10,0000	17,1
69	0,4796	0,8881	5,4703	1,02050673	-30,04	-10,0000	10,4	31	0,4796	0,8881	5,4703	1,027253988	-36,36	-10,0000	16,9
69	0,4796	0,8881	5,4782	1,02050673	-29,88	-10,0000	10,3	31	0,4796	0,8881	5,4782	1,027253988	-36,59	-10,0000	17,1
70	0,4796	0,8881	5,4861	1,02034989	-29,75	-10,0000	10,1	30	0,4796	0,8881	5,4861	1,027455082	-36,77	-10,0000	17,3
70	0,4796	0,8881	5,4941	1,02034989	-29,90	-10,0000	10,3	30	0,4796	0,8881	5,4941	1,027455082	-36,60	-10,0000	17,1
70	0,4796	0,8881	5,5020	1,02034989	-29,76	-10,0000	10,1	30	0,4796	0,8881	5,5020	1,027455082	-36,79	-10,0000	17,3
70	0,4796	0,8881	5,5099	1,02034989	-29,91	-10,0000	10,3	30	0,4796	0,8881	5,5099	1,027455082	-36,61	-10,0000	17,1
70	0,4796	0,8881	5,5179	1,02034989	-29,77	-10,0000	10,1	30	0,4796	0,8881	5,5179	1,027455082	-36,81	-10,0000	17,3
70	0,4796	0,8881	5,5258	1,02034989	-29,93	-10,0000	10,3	30	0,4796	0,8881	5,5258	1,027455082	-36,62	-10,0000	17,1

70	0,4796	0,8881	5,5337	1,02034989	-29,77	-10,0000	10,1	30	0,4796	0,8881	5,5337	1,027455082	-36,84	-10,0000	17,3
70	0,4796	0,8881	5,5417	1,02034989	-29,94	-10,0000	10,3	30	0,4796	0,8881	5,5417	1,027455082	-36,62	-10,0000	17,1
70	0,4796	0,8881	5,5496	1,02034989	-29,78	-10,0000	10,1	30	0,4796	0,8881	5,5496	1,027455082	-36,86	-10,0000	17,3
71	0,4796	0,8881	5,5575	1,02019399	-29,65	-10,0000	10,0	29	0,4796	0,8881	5,5575	1,027657548	-37,03	-10,0000	17,5
71	0,4796	0,8881	5,5655	1,02019399	-29,79	-10,0000	10,1	29	0,4796	0,8881	5,5655	1,027657548	-36,87	-10,0000	17,3
71	0,4796	0,8881	5,5734	1,02019399	-29,66	-10,0000	10,0	29	0,4796	0,8881	5,5734	1,027657548	-37,05	-10,0000	17,5
71	0,4796	0,8881	5,5814	1,02019399	-29,81	-10,0000	10,1	29	0,4796	0,8881	5,5814	1,027657548	-36,87	-10,0000	17,3
71	0,4796	0,8881	5,5893	1,02019399	-29,66	-10,0000	10,0	29	0,4796	0,8881	5,5893	1,027657548	-37,08	-10,0000	17,5
71	0,4796	0,8881	5,5972	1,02019399	-29,82	-10,0000	10,1	29	0,4796	0,8881	5,5972	1,027657548	-36,88	-10,0000	17,3
71	0,4796	0,8881	5,6052	1,02019399	-29,67	-10,0000	10,0	29	0,4796	0,8881	5,6052	1,027657548	-37,10	-10,0000	17,5
71	0,4796	0,8881	5,6131	1,02019399	-29,84	-10,0000	10,1	29	0,4796	0,8881	5,6131	1,027657548	-36,89	-10,0000	17,3
71	0,4796	0,8881	5,6210	1,02019399	-29,68	-10,0000	10,0	29	0,4796	0,8881	5,6210	1,027657548	-37,13	-10,0000	17,5
72	0,4796	0,8881	5,6290	1,02003901	-29,55	-10,0000	9,8	28	0,4796	0,8881	5,6290	1,027861399	-37,30	-10,0000	17,7
72	0,4796	0,8881	5,6369	1,02003901	-29,69	-10,0000	10,0	28	0,4796	0,8881	5,6369	1,027861399	-37,13	-10,0000	17,5
72	0,4796	0,8881	5,6448	1,02003901	-29,55	-10,0000	9,8	28	0,4796	0,8881	5,6448	1,027861399	-37,32	-10,0000	17,7
72	0,4796	0,8881	5,6528	1,02003901	-29,70	-10,0000	10,0	28	0,4796	0,8881	5,6528	1,027861399	-37,14	-10,0000	17,5
72	0,4796	0,8881	5,6607	1,02003901	-29,56	-10,0000	9,8	28	0,4796	0,8881	5,6607	1,027861399	-37,34	-10,0000	17,7
72	0,4796	0,8881	5,6686	1,02003901	-29,72	-10,0000	10,0	28	0,4796	0,8881	5,6686	1,027861399	-37,14	-10,0000	17,5
72	0,4796	0,8881	5,6766	1,02003901	-29,56	-10,0000	9,8	28	0,4796	0,8881	5,6766	1,027861399	-37,37	-10,0000	17,7
72	0,4796	0,8881	5,6845	1,02003901	-29,73	-10,0000	10,0	28	0,4796	0,8881	5,6845	1,027861399	-37,15	-10,0000	17,5
72	0,4796	0,8881	5,6924	1,02003901	-29,57	-10,0000	9,8	28	0,4796	0,8881	5,6924	1,027861399	-37,39	-10,0000	17,7
73	0,4796	0,8881	5,7004	1,01988495	-29,44	-10,0000	9,7	27	0,4796	0,8881	5,7004	1,02806665	-37,56	-10,0000	17,9
73	0,4796	0,8881	5,7083	1,01988495	-29,58	-10,0000	9,8	27	0,4796	0,8881	5,7083	1,02806665	-37,40	-10,0000	17,7
73	0,4796	0,8881	5,7162	1,01988495	-29,45	-10,0000	9,7	27	0,4796	0,8881	5,7162	1,02806665	-37,59	-10,0000	17,9
73	0,4796	0,8881	5,7242	1,01988495	-29,60	-10,0000	9,8	27	0,4796	0,8881	5,7242	1,02806665	-37,40	-10,0000	17,7
73	0,4796	0,8881	5,7321	1,01988495	-29,45	-10,0000	9,7	27	0,4796	0,8881	5,7321	1,02806665	-37,61	-10,0000	17,9
73	0,4796	0,8881	5,7400	1,01988495	-29,61	-10,0000	9,8	27	0,4796	0,8881	5,7400	1,02806665	-37,41	-10,0000	17,7
73	0,4796	0,8881	5,7480	1,01988495	-29,46	-10,0000	9,7	27	0,4796	0,8881	5,7480	1,02806665	-37,63	-10,0000	17,9
73	0,4796	0,8881	5,7559	1,01988495	-29,63	-10,0000	9,8	27	0,4796	0,8881	5,7559	1,02806665	-37,41	-10,0000	17,7
73	0,4796	0,8881	5,7638	1,01988495	-29,46	-10,0000	9,6	27	0,4796	0,8881	5,7638	1,02806665	-37,66	-10,0000	17,9
74	0,4796	0,8881	5,7718	1,0197318	-29,34	-10,0000	9,5	26	0,4796	0,8881	5,7718	1,028273316	-37,83	-10,0000	18,1
74	0,4796	0,8881	5,7797	1,0197318	-29,48	-10,0000	9,7	26	0,4796	0,8881	5,7797	1,028273316	-37,66	-10,0000	17,9
74	0,4796	0,8881	5,7876	1,0197318	-29,34	-10,0000	9,5	26	0,4796	0,8881	5,7876	1,028273316	-37,85	-10,0000	18,1
74	0,4796	0,8881	5,7956	1,0197318	-29,49	-10,0000	9,7	26	0,4796	0,8881	5,7956	1,028273316	-37,67	-10,0000	17,9
74	0,4796	0,8881	5,8035	1,0197318	-29,35	-10,0000	9,5	26	0,4796	0,8881	5,8035	1,028273316	-37,88	-10,0000	18,1
74	0,4796	0,8881	5,8114	1,0197318	-29,50	-10,0000	9,7	26	0,4796	0,8881	5,8114	1,028273316	-37,67	-10,0000	17,9
74	0,4796	0,8881	5,8194	1,0197318	-29,35	-10,0000	9,5	26	0,4796	0,8881	5,8194	1,028273316	-37,90	-10,0000	18,1
74	0,4796	0,8881	5,8273	1,0197318	-29,52	-10,0000	9,7	26	0,4796	0,8881	5,8273	1,028273316	-37,68	-10,0000	17,9
74	0,4796	0,8881	5,8353	1,0197318	-29,36	-10,0000	9,5	26	0,4796	0,8881	5,8353	1,028273316	-37,93	-10,0000	18,1
75	0,4796	0,8881	5,8432	1,01957956	-29,23	-10,0000	9,4	25	0,4796	0,8881	5,8432	1,028481411	-38,10	-10,0000	18,3
75	0,4796	0,8881	5,8511	1,01957956	-29,37	-10,0000	9,5	25	0,4796	0,8881	5,8511	1,028481411	-37,93	-10,0000	18,1
75	0,4796	0,8881	5,8591	1,01957956	-29,23	-10,0000	9,4	25	0,4796	0,8881	5,8591	1,028481411	-38,12	-10,0000	18,3
75	0,4796	0,8881	5,8670	1,01957956	-29,38	-10,0000	9,5	25	0,4796	0,8881	5,8670	1,028481411	-37,94	-10,0000	18,1
75	0,4796	0,8881	5,8749	1,01957956	-29,24	-10,0000	9,4	25	0,4796	0,8881	5,8749	1,028481411	-38,14	-10,0000	18,3
75	0,4796	0,8881	5,8829	1,01957956	-29,40	-10,0000	9,5	25	0,4796	0,8881	5,8829	1,028481411	-37,94	-10,0000	18,1
75	0,4796	0,8881	5,8908	1,01957956	-29,24	-10,0000	9,3	25	0,4796	0,8881	5,8908	1,028481411	-38,17	-10,0000	18,3
75	0,4796	0,8881	5,8987	1,01957956	-29,41	-10,0000	9,5	25	0,4796	0,8881	5,8987	1,028481411	-37,94	-10,0000	18,1
75	0,4796	0,8881	5,9067	1,01957956	-29,25	-10,0000	9,3	25	0,4796	0,8881	5,9067	1,028481411	-38,20	-10,0000	18,3
76	0,4796	0,8881	5,9146	1,01942821	-29,12	-10,0000	9,2	24	0,4796	0,8881	5,9146	1,028690949	-38,36	-10,0000	18,5
76	0,4796	0,8881	5,9225	1,01942821	-29,26	-10,0000	9,3	24	0,4796	0,8881	5,9225	1,028690949	-38,20	-10,0000	18,3
76	0,4796	0,8881	5,9305	1,01942821	-29,13	-10,0000	9,2	24	0,4796	0,8881	5,9305	1,028690949	-38,39	-10,0000	18,5
76	0,4796	0,8881	5,9384	1,01942821	-29,27	-10,0000	9,4	24	0,4796	0,8881	5,9384	1,028690949	-38,20	-10,0000	18,3
76	0,4796	0,8881	5,9463	1,01942821	-29,13	-10,0000	9,2	24	0,4796	0,8881	5,9463	1,028690949	-38,41	-10,0000	18,5
76	0,4796	0,8881	5,9543	1,01942821	-29,29	-10,0000	9,4	24	0,4796	0,8881	5,9543	1,028690949	-38,20	-10,0000	18,3
76	0,4796	0,8881	5,9622	1,01942821	-29,13	-10,0000	9,2	24	0,4796	0,8881	5,9622	1,028690949	-38,44	-10,0000	18,5

76	0,4796	0,8881	5,9701	1,01942821	-29,30	-10,0000	9,4	24	0,4796	0,8881	5,9701	1,028690949	-38,20	-10,0000	18,3
76	0,4796	0,8881	5,9781	1,01942821	-29,14	-10,0000	9,2	24	0,4796	0,8881	5,9781	1,028690949	-38,46	-10,0000	18,5
77	0,4796	0,8881	5,9860	1,01927775	-29,01	-10,0000	9,1	23	0,4796	0,8881	5,9860	1,028901946	-38,63	-10,0000	18,7
77	0,4796	0,8881	5,9939	1,01927775	-29,15	-10,0000	9,2	23	0,4796	0,8881	5,9939	1,028901946	-38,47	-10,0000	18,5
77	0,4796	0,8881	6,0019	1,01927775	-29,02	-10,0000	9,1	23	0,4796	0,8881	6,0019	1,028901946	-38,66	-10,0000	18,7
77	0,4796	0,8881	6,0098	1,01927775	-29,17	-10,0000	9,2	23	0,4796	0,8881	6,0098	1,028901946	-38,47	-10,0000	18,5
77	0,4796	0,8881	6,0177	1,01927775	-29,02	-10,0000	9,1	23	0,4796	0,8881	6,0177	1,028901946	-38,68	-10,0000	18,7
77	0,4796	0,8881	6,0257	1,01927775	-29,18	-10,0000	9,2	23	0,4796	0,8881	6,0257	1,028901946	-38,47	-10,0000	18,5
77	0,4796	0,8881	6,0336	1,01927775	-29,03	-10,0000	9,0	23	0,4796	0,8881	6,0336	1,028901946	-38,71	-10,0000	18,7
77	0,4796	0,8881	6,0415	1,01927775	-29,19	-10,0000	9,2	23	0,4796	0,8881	6,0415	1,028901946	-38,47	-10,0000	18,5
77	0,4796	0,8881	6,0495	1,01927775	-29,03	-10,0000	9,0	23	0,4796	0,8881	6,0495	1,028901946	-38,73	-10,0000	18,7
78	0,4796	0,8881	6,0574	1,01912816	-28,91	-10,0000	8,9	22	0,4796	0,8881	6,0574	1,029114418	-38,90	-10,0000	18,9
78	0,4796	0,8881	6,0653	1,01912816	-29,04	-10,0000	9,0	22	0,4796	0,8881	6,0653	1,029114418	-38,74	-10,0000	18,7
78	0,4796	0,8881	6,0733	1,01912816	-28,91	-10,0000	8,9	22	0,4796	0,8881	6,0733	1,029114418	-38,93	-10,0000	18,9
78	0,4796	0,8881	6,0812	1,01912816	-29,06	-10,0000	9,1	22	0,4796	0,8881	6,0812	1,029114418	-38,74	-10,0000	18,7
78	0,4796	0,8881	6,0891	1,01912816	-28,91	-10,0000	8,9	22	0,4796	0,8881	6,0891	1,029114418	-38,95	-10,0000	18,9
78	0,4796	0,8881	6,0971	1,01912816	-29,07	-10,0000	9,1	22	0,4796	0,8881	6,0971	1,029114418	-38,74	-10,0000	18,7
78	0,4796	0,8881	6,1050	1,01912816	-28,92	-10,0000	8,9	22	0,4796	0,8881	6,1050	1,029114418	-38,98	-10,0000	18,9
78	0,4796	0,8881	6,1130	1,01912816	-29,08	-10,0000	9,1	22	0,4796	0,8881	6,1130	1,029114418	-38,74	-10,0000	18,7
78	0,4796	0,8881	6,1209	1,01912816	-28,92	-10,0000	8,9	22	0,4796	0,8881	6,1209	1,029114418	-39,01	-10,0000	19,0
79	0,4796	0,8881	6,1288	1,01897945	-28,80	-10,0000	8,8	21	0,4796	0,8881	6,1288	1,029328379	-39,17	-10,0000	19,1
79	0,4796	0,8881	6,1368	1,01897945	-28,93	-10,0000	8,9	21	0,4796	0,8881	6,1368	1,029328379	-39,01	-10,0000	19,0
79	0,4796	0,8881	6,1447	1,01897945	-28,80	-10,0000	8,8	21	0,4796	0,8881	6,1447	1,029328379	-39,20	-10,0000	19,1
79	0,4796	0,8881	6,1526	1,01897945	-28,94	-10,0000	8,9	21	0,4796	0,8881	6,1526	1,029328379	-39,01	-10,0000	18,9
79	0,4796	0,8881	6,1606	1,01897945	-28,80	-10,0000	8,8	21	0,4796	0,8881	6,1606	1,029328379	-39,22	-10,0000	19,1
79	0,4796	0,8881	6,1685	1,01897945	-28,96	-10,0000	8,9	21	0,4796	0,8881	6,1685	1,029328379	-39,01	-10,0000	18,9
79	0,4796	0,8881	6,1764	1,01897945	-28,81	-10,0000	8,8	21	0,4796	0,8881	6,1764	1,029328379	-39,25	-10,0000	19,2
79	0,4796	0,8881	6,1844	1,01897945	-28,97	-10,0000	8,9	21	0,4796	0,8881	6,1844	1,029328379	-39,01	-10,0000	18,9
79	0,4796	0,8881	6,1923	1,01897945	-28,81	-10,0000	8,7	21	0,4796	0,8881	6,1923	1,029328379	-39,28	-10,0000	19,2
80	0,4796	0,8881	6,2002	1,01883161	-28,69	-10,0000	8,6	20	0,4796	0,8881	6,2002	1,029543846	-39,44	-10,0000	19,3
80	0,4796	0,8881	6,2082	1,01883161	-28,82	-10,0000	8,7	20	0,4796	0,8881	6,2082	1,029543846	-39,28	-10,0000	19,2
80	0,4796	0,8881	6,2161	1,01883161	-28,69	-10,0000	8,6	20	0,4796	0,8881	6,2161	1,029543846	-39,47	-10,0000	19,3
80	0,4796	0,8881	6,2240	1,01883161	-28,83	-10,0000	8,8	20	0,4796	0,8881	6,2240	1,029543846	-39,28	-10,0000	19,2
80	0,4796	0,8881	6,2320	1,01883161	-28,69	-10,0000	8,6	20	0,4796	0,8881	6,2320	1,029543846	-39,49	-10,0000	19,4
80	0,4796	0,8881	6,2399	1,01883161	-28,85	-10,0000	8,8	20	0,4796	0,8881	6,2399	1,029543846	-39,28	-10,0000	19,1
80	0,4796	0,8881	6,2478	1,01883161	-28,69	-10,0000	8,6	20	0,4796	0,8881	6,2478	1,029543846	-39,52	-10,0000	19,4
80	0,4796	0,8881	6,2558	1,01883161	-28,86	-10,0000	8,8	20	0,4796	0,8881	6,2558	1,029543846	-39,28	-10,0000	19,1
80	0,4796	0,8881	6,2637	1,01883161	-28,69	-10,0000	8,6	20	0,4796	0,8881	6,2637	1,029543846	-39,55	-10,0000	19,4
81	0,4796	0,8881	6,2716	1,01868462	-28,58	-10,0000	8,5	19	0,4796	0,8881	6,2716	1,029760834	-39,72	-10,0000	19,5
81	0,4796	0,8881	6,2796	1,01868462	-28,71	-10,0000	8,6	19	0,4796	0,8881	6,2796	1,029760834	-39,55	-10,0000	19,4
81	0,4796	0,8881	6,2875	1,01868462	-28,58	-10,0000	8,5	19	0,4796	0,8881	6,2875	1,029760834	-39,74	-10,0000	19,6
81	0,4796	0,8881	6,2954	1,01868462	-28,72	-10,0000	8,6	19	0,4796	0,8881	6,2954	1,029760834	-39,55	-10,0000	19,4
81	0,4796	0,8881	6,3034	1,01868462	-28,58	-10,0000	8,5	19	0,4796	0,8881	6,3034	1,029760834	-39,77	-10,0000	19,6
81	0,4796	0,8881	6,3113	1,01868462	-28,74	-10,0000	8,6	19	0,4796	0,8881	6,3113	1,029760834	-39,55	-10,0000	19,4
81	0,4796	0,8881	6,3192	1,01868462	-28,58	-10,0000	8,5	19	0,4796	0,8881	6,3192	1,029760834	-39,80	-10,0000	19,6
81	0,4796	0,8881	6,3272	1,01868462	-28,75	-10,0000	8,6	19	0,4796	0,8881	6,3272	1,029760834	-39,55	-10,0000	19,3
81	0,4796	0,8881	6,3351	1,01868462	-28,58	-10,0000	8,5	19	0,4796	0,8881	6,3351	1,029760834	-39,83	-10,0000	19,6
82	0,4796	0,8881	6,3430	1,01853848	-28,47	-10,0000	8,3	18	0,4796	0,8881	6,3430	1,02997936	-39,99	-10,0000	19,8
82	0,4796	0,8881	6,3510	1,01853848	-28,60	-10,0000	8,5	18	0,4796	0,8881	6,3510	1,02997936	-39,83	-10,0000	19,6
82	0,4796	0,8881	6,3589	1,01853848	-28,47	-10,0000	8,3	18	0,4796	0,8881	6,3589	1,02997936	-40,01	-10,0000	19,8
82	0,4796	0,8881	6,3669	1,01853848	-28,61	-10,0000	8,5	18	0,4796	0,8881	6,3669	1,02997936	-39,83	-10,0000	19,6
82	0,4796	0,8881	6,3748	1,01853848	-28,47	-10,0000	8,3	18	0,4796	0,8881	6,3748	1,02997936	-40,04	-10,0000	19,8
82	0,4796	0,8881	6,3827	1,01853848	-28,62	-10,0000	8,5	18	0,4796	0,8881	6,3827	1,02997936	-39,82	-10,0000	19,6
82	0,4796	0,8881	6,3907	1,01853848	-28,47	-10,0000	8,3	18	0,4796	0,8881	6,3907	1,02997936	-40,07	-10,0000	19,8
82	0,4796	0,8881	6,3986	1,01853848	-28,64	-10,0000	8,5	18	0,4796	0,8881	6,3986	1,02997936	-39,82	-10,0000	19,5

82	0,4796	0,8881	6,4065	1,01853848	-28,47	-10,0000	8,3	18	0,4796	0,8881	6,4065	1,02997936	-40,10	-10,0000	19,8
83	0,4796	0,8881	6,4145	1,01839318	-28,36	-10,0000	8,2	17	0,4796	0,8881	6,4145	1,030199439	-40,26	-10,0000	20,0
83	0,4796	0,8881	6,4224	1,01839318	-28,48	-10,0000	8,3	17	0,4796	0,8881	6,4224	1,030199439	-40,10	-10,0000	19,8
83	0,4796	0,8881	6,4303	1,01839318	-28,36	-10,0000	8,2	17	0,4796	0,8881	6,4303	1,030199439	-40,29	-10,0000	20,0
83	0,4796	0,8881	6,4383	1,01839318	-28,50	-10,0000	8,3	17	0,4796	0,8881	6,4383	1,030199439	-40,10	-10,0000	19,8
83	0,4796	0,8881	6,4462	1,01839318	-28,36	-10,0000	8,2	17	0,4796	0,8881	6,4462	1,030199439	-40,32	-10,0000	20,0
83	0,4796	0,8881	6,4541	1,01839318	-28,51	-10,0000	8,3	17	0,4796	0,8881	6,4541	1,030199439	-40,10	-10,0000	19,8
83	0,4796	0,8881	6,4621	1,01839318	-28,36	-10,0000	8,2	17	0,4796	0,8881	6,4621	1,030199439	-40,35	-10,0000	20,0
83	0,4796	0,8881	6,4700	1,01839318	-28,53	-10,0000	8,3	17	0,4796	0,8881	6,4700	1,030199439	-40,09	-10,0000	19,8
83	0,4796	0,8881	6,4779	1,01839318	-28,36	-10,0000	8,2	17	0,4796	0,8881	6,4779	1,030199439	-40,38	-10,0000	20,0
84	0,4796	0,8881	6,4859	1,01824871	-28,24	-10,0000	8,0	16	0,4796	0,8881	6,4859	1,030421089	-40,54	-10,0000	20,2
84	0,4796	0,8881	6,4938	1,01824871	-28,37	-10,0000	8,2	16	0,4796	0,8881	6,4938	1,030421089	-40,38	-10,0000	20,0
84	0,4796	0,8881	6,5017	1,01824871	-28,25	-10,0000	8,0	16	0,4796	0,8881	6,5017	1,030421089	-40,57	-10,0000	20,2
84	0,4796	0,8881	6,5097	1,01824871	-28,38	-10,0000	8,2	16	0,4796	0,8881	6,5097	1,030421089	-40,38	-10,0000	20,0
84	0,4796	0,8881	6,5176	1,01824871	-28,25	-10,0000	8,0	16	0,4796	0,8881	6,5176	1,030421089	-40,59	-10,0000	20,2
84	0,4796	0,8881	6,5255	1,01824871	-28,40	-10,0000	8,2	16	0,4796	0,8881	6,5255	1,030421089	-40,37	-10,0000	20,0
84	0,4796	0,8881	6,5335	1,01824871	-28,25	-10,0000	8,0	16	0,4796	0,8881	6,5335	1,030421089	-40,62	-10,0000	20,2
84	0,4796	0,8881	6,5414	1,01824871	-28,41	-10,0000	8,2	16	0,4796	0,8881	6,5414	1,030421089	-40,36	-10,0000	20,0
84	0,4796	0,8881	6,5493	1,01824871	-28,24	-10,0000	8,0	16	0,4796	0,8881	6,5493	1,030421089	-40,66	-10,0000	20,3
85	0,4796	0,8881	6,5573	1,01810507	-28,13	-10,0000	7,9	15	0,4796	0,8881	6,5573	1,030644327	-40,82	-10,0000	20,4
85	0,4796	0,8881	6,5652	1,01810507	-28,26	-10,0000	8,0	15	0,4796	0,8881	6,5652	1,030644327	-40,65	-10,0000	20,3
85	0,4796	0,8881	6,5731	1,01810507	-28,13	-10,0000	7,9	15	0,4796	0,8881	6,5731	1,030644327	-40,84	-10,0000	20,4
85	0,4796	0,8881	6,5811	1,01810507	-28,27	-10,0000	8,0	15	0,4796	0,8881	6,5811	1,030644327	-40,65	-10,0000	20,2
85	0,4796	0,8881	6,5890	1,01810507	-28,13	-10,0000	7,9	15	0,4796	0,8881	6,5890	1,030644327	-40,87	-10,0000	20,4
85	0,4796	0,8881	6,5969	1,01810507	-28,28	-10,0000	8,0	15	0,4796	0,8881	6,5969	1,030644327	-40,65	-10,0000	20,2
85	0,4796	0,8881	6,6049	1,01810507	-28,13	-10,0000	7,9	15	0,4796	0,8881	6,6049	1,030644327	-40,90	-10,0000	20,5
85	0,4796	0,8881	6,6128	1,01810507	-28,30	-10,0000	8,0	15	0,4796	0,8881	6,6128	1,030644327	-40,64	-10,0000	20,2
85	0,4796	0,8881	6,6208	1,01810507	-28,13	-10,0000	7,9	15	0,4796	0,8881	6,6208	1,030644327	-40,93	-10,0000	20,5
86	0,4796	0,8881	6,6287	1,01796226	-28,02	-10,0000	7,8	14	0,4796	0,8881	6,6287	1,030869169	-41,10	-10,0000	20,6
86	0,4796	0,8881	6,6366	1,01796226	-28,14	-10,0000	7,9	14	0,4796	0,8881	6,6366	1,030869169	-40,93	-10,0000	20,5
86	0,4796	0,8881	6,6446	1,01796226	-28,02	-10,0000	7,8	14	0,4796	0,8881	6,6446	1,030869169	-41,12	-10,0000	20,7
86	0,4796	0,8881	6,6525	1,01796226	-28,16	-10,0000	7,9	14	0,4796	0,8881	6,6525	1,030869169	-40,93	-10,0000	20,5
86	0,4796	0,8881	6,6604	1,01796226	-28,02	-10,0000	7,7	14	0,4796	0,8881	6,6604	1,030869169	-41,15	-10,0000	20,7
86	0,4796	0,8881	6,6684	1,01796226	-28,17	-10,0000	7,9	14	0,4796	0,8881	6,6684	1,030869169	-40,92	-10,0000	20,4
86	0,4796	0,8881	6,6763	1,01796226	-28,02	-10,0000	7,7	14	0,4796	0,8881	6,6763	1,030869169	-41,18	-10,0000	20,7
86	0,4796	0,8881	6,6842	1,01796226	-28,19	-10,0000	7,9	14	0,4796	0,8881	6,6842	1,030869169	-40,91	-10,0000	20,4
86	0,4796	0,8881	6,6922	1,01796226	-28,02	-10,0000	7,7	14	0,4796	0,8881	6,6922	1,030869169	-41,21	-10,0000	20,7
87	0,4796	0,8881	6,7001	1,01782025	-27,91	-10,0000	7,6	13	0,4796	0,8881	6,7001	1,031095633	-41,38	-10,0000	20,9
87	0,4796	0,8881	6,7080	1,01782025	-28,03	-10,0000	7,7	13	0,4796	0,8881	6,7080	1,031095633	-41,21	-10,0000	20,7
87	0,4796	0,8881	6,7160	1,01782025	-27,91	-10,0000	7,6	13	0,4796	0,8881	6,7160	1,031095633	-41,40	-10,0000	20,9
87	0,4796	0,8881	6,7239	1,01782025	-28,04	-10,0000	7,7	13	0,4796	0,8881	6,7239	1,031095633	-41,21	-10,0000	20,7
87	0,4796	0,8881	6,7318	1,01782025	-27,91	-10,0000	7,6	13	0,4796	0,8881	6,7318	1,031095633	-41,43	-10,0000	20,9
87	0,4796	0,8881	6,7398	1,01782025	-28,06	-10,0000	7,8	13	0,4796	0,8881	6,7398	1,031095633	-41,20	-10,0000	20,7
87	0,4796	0,8881	6,7477	1,01782025	-27,91	-10,0000	7,6	13	0,4796	0,8881	6,7477	1,031095633	-41,46	-10,0000	20,9
87	0,4796	0,8881	6,7556	1,01782025	-28,07	-10,0000	7,8	13	0,4796	0,8881	6,7556	1,031095633	-41,19	-10,0000	20,6
87	0,4796	0,8881	6,7636	1,01782025	-27,90	-10,0000	7,6	13	0,4796	0,8881	6,7636	1,031095633	-41,50	-10,0000	20,9
88	0,4796	0,8881	6,7715	1,01767906	-27,79	-10,0000	7,5	12	0,4796	0,8881	6,7715	1,031323736	-41,66	-10,0000	21,1
88	0,4796	0,8881	6,7794	1,01767906	-27,91	-10,0000	7,6	12	0,4796	0,8881	6,7794	1,031323736	-41,49	-10,0000	20,9
88	0,4796	0,8881	6,7874	1,01767906	-27,79	-10,0000	7,5	12	0,4796	0,8881	6,7874	1,031323736	-41,68	-10,0000	21,1
88	0,4796	0,8881	6,7953	1,01767906	-27,93	-10,0000	7,6	12	0,4796	0,8881	6,7953	1,031323736	-41,49	-10,0000	20,9
88	0,4796	0,8881	6,8032	1,01767906	-27,79	-10,0000	7,5	12	0,4796	0,8881	6,8032	1,031323736	-41,71	-10,0000	21,1
88	0,4796	0,8881	6,8112	1,01767906	-27,94	-10,0000	7,6	12	0,4796	0,8881	6,8112	1,031323736	-41,48	-10,0000	20,9
88	0,4796	0,8881	6,8191	1,01767906	-27,79	-10,0000	7,5	12	0,4796	0,8881	6,8191	1,031323736	-41,74	-10,0000	21,1
88	0,4796	0,8881	6,8270	1,01767906	-27,96	-10,0000	7,6	12	0,4796	0,8881	6,8270	1,031323736	-41,47	-10,0000	20,9
88	0,4796	0,8881	6,8350	1,01767906	-27,79	-10,0000	7,5	12	0,4796	0,8881	6,8350	1,031323736	-41,78	-10,0000	21,2

89	0,4796	0,8881	6,8429	1,01753866	-27,68	-10,0000	7,3	11	0,4796	0,8881	6,8429	1,031553497	-41,94	-10,0000	21,3
89	0,4796	0,8881	6,8508	1,01753866	-27,80	-10,0000	7,5	11	0,4796	0,8881	6,8508	1,031553497	-41,78	-10,0000	21,2
89	0,4796	0,8881	6,8588	1,01753866	-27,68	-10,0000	7,3	11	0,4796	0,8881	6,8588	1,031553497	-41,96	-10,0000	21,3
89	0,4796	0,8881	6,8667	1,01753866	-27,81	-10,0000	7,5	11	0,4796	0,8881	6,8667	1,031553497	-41,77	-10,0000	21,1
89	0,4796	0,8881	6,8747	1,01753866	-27,68	-10,0000	7,3	11	0,4796	0,8881	6,8747	1,031553497	-41,99	-10,0000	21,4
89	0,4796	0,8881	6,8826	1,01753866	-27,83	-10,0000	7,5	11	0,4796	0,8881	6,8826	1,031553497	-41,76	-10,0000	21,1
89	0,4796	0,8881	6,8905	1,01753866	-27,68	-10,0000	7,3	11	0,4796	0,8881	6,8905	1,031553497	-42,03	-10,0000	21,4
89	0,4796	0,8881	6,8985	1,01753866	-27,84	-10,0000	7,5	11	0,4796	0,8881	6,8985	1,031553497	-41,75	-10,0000	21,1
89	0,4796	0,8881	6,9064	1,01753866	-27,67	-10,0000	7,3	11	0,4796	0,8881	6,9064	1,031553497	-42,06	-10,0000	21,4
90	0,4796	0,8881	6,9143	1,01739905	-27,57	-10,0000	7,2	10	0,4796	0,8881	6,9143	1,031784933	-42,22	-10,0000	21,5
90	0,4796	0,8881	6,9223	1,01739905	-27,69	-10,0000	7,3	10	0,4796	0,8881	6,9223	1,031784933	-42,06	-10,0000	21,4
90	0,4796	0,8881	6,9302	1,01739905	-27,57	-10,0000	7,2	10	0,4796	0,8881	6,9302	1,031784933	-42,25	-10,0000	21,6
90	0,4796	0,8881	6,9381	1,01739905	-27,70	-10,0000	7,3	10	0,4796	0,8881	6,9381	1,031784933	-42,05	-10,0000	21,4
90	0,4796	0,8881	6,9461	1,01739905	-27,56	-10,0000	7,2	10	0,4796	0,8881	6,9461	1,031784933	-42,28	-10,0000	21,6
90	0,4796	0,8881	6,9540	1,01739905	-27,71	-10,0000	7,3	10	0,4796	0,8881	6,9540	1,031784933	-42,04	-10,0000	21,3
90	0,4796	0,8881	6,9619	1,01739905	-27,56	-10,0000	7,2	10	0,4796	0,8881	6,9619	1,031784933	-42,31	-10,0000	21,6
90	0,4796	0,8881	6,9699	1,01739905	-27,73	-10,0000	7,3	10	0,4796	0,8881	6,9699	1,031784933	-42,03	-10,0000	21,3
90	0,4796	0,8881	6,9778	1,01739905	-27,56	-10,0000	7,2	10	0,4796	0,8881	6,9778	1,031784933	-42,35	-10,0000	21,6
91	0,4796	0,8881	6,9857	1,01726023	-27,45	-10,0000	7,1	9	0,4796	0,8881	6,9857	1,032018063	-42,51	-10,0000	21,8
91	0,4796	0,8881	6,9937	1,01726023	-27,57	-10,0000	7,2	9	0,4796	0,8881	6,9937	1,032018063	-42,34	-10,0000	21,6
91	0,4796	0,8881	7,0016	1,01726023	-27,45	-10,0000	7,1	9	0,4796	0,8881	7,0016	1,032018063	-42,53	-10,0000	21,8
91	0,4796	0,8881	7,0095	1,01726023	-27,58	-10,0000	7,2	9	0,4796	0,8881	7,0095	1,032018063	-42,34	-10,0000	21,6
91	0,4796	0,8881	7,0175	1,01726023	-27,45	-10,0000	7,1	9	0,4796	0,8881	7,0175	1,032018063	-42,56	-10,0000	21,8
91	0,4796	0,8881	7,0254	1,01726023	-27,60	-10,0000	7,2	9	0,4796	0,8881	7,0254	1,032018063	-42,33	-10,0000	21,6
91	0,4796	0,8881	7,0333	1,01726023	-27,45	-10,0000	7,0	9	0,4796	0,8881	7,0333	1,032018063	-42,60	-10,0000	21,8
91	0,4796	0,8881	7,0413	1,01726023	-27,61	-10,0000	7,2	9	0,4796	0,8881	7,0413	1,032018063	-42,31	-10,0000	21,6
91	0,4796	0,8881	7,0492	1,01726023	-27,44	-10,0000	7,0	9	0,4796	0,8881	7,0492	1,032018063	-42,64	-10,0000	21,9
92	0,4796	0,8881	7,0571	1,01712219	-27,34	-10,0000	6,9	8	0,4796	0,8881	7,0571	1,032252906	-42,79	-10,0000	22,0
92	0,4796	0,8881	7,0651	1,01712219	-27,46	-10,0000	7,0	8	0,4796	0,8881	7,0651	1,032252906	-42,63	-10,0000	21,8
92	0,4796	0,8881	7,0730	1,01712219	-27,34	-10,0000	6,9	8	0,4796	0,8881	7,0730	1,032252906	-42,82	-10,0000	22,0
92	0,4796	0,8881	7,0809	1,01712219	-27,47	-10,0000	7,0	8	0,4796	0,8881	7,0809	1,032252906	-42,62	-10,0000	21,8
92	0,4796	0,8881	7,0889	1,01712219	-27,34	-10,0000	6,9	8	0,4796	0,8881	7,0889	1,032252906	-42,85	-10,0000	22,0
92	0,4796	0,8881	7,0968	1,01712219	-27,48	-10,0000	7,1	8	0,4796	0,8881	7,0968	1,032252906	-42,61	-10,0000	21,8
92	0,4796	0,8881	7,1047	1,01712219	-27,33	-10,0000	6,9	8	0,4796	0,8881	7,1047	1,032252906	-42,88	-10,0000	22,1
92	0,4796	0,8881	7,1127	1,01712219	-27,50	-10,0000	7,1	8	0,4796	0,8881	7,1127	1,032252906	-42,60	-10,0000	21,8
92	0,4796	0,8881	7,1206	1,01712219	-27,33	-10,0000	6,9	8	0,4796	0,8881	7,1206	1,032252906	-42,92	-10,0000	22,1
93	0,4796	0,8881	7,1286	1,01698493	-27,23	-10,0000	6,8	7	0,4796	0,8881	7,1286	1,03248948	-43,08	-10,0000	22,2
93	0,4796	0,8881	7,1365	1,01698493	-27,34	-10,0000	6,9	7	0,4796	0,8881	7,1365	1,03248948	-42,92	-10,0000	22,1
93	0,4796	0,8881	7,1444	1,01698493	-27,22	-10,0000	6,8	7	0,4796	0,8881	7,1444	1,03248948	-43,11	-10,0000	22,3
93	0,4796	0,8881	7,1524	1,01698493	-27,35	-10,0000	6,9	7	0,4796	0,8881	7,1524	1,03248948	-42,91	-10,0000	22,1
93	0,4796	0,8881	7,1603	1,01698493	-27,22	-10,0000	6,8	7	0,4796	0,8881	7,1603	1,03248948	-43,14	-10,0000	22,3
93	0,4796	0,8881	7,1682	1,01698493	-27,37	-10,0000	6,9	7	0,4796	0,8881	7,1682	1,03248948	-42,90	-10,0000	22,0
93	0,4796	0,8881	7,1762	1,01698493	-27,22	-10,0000	6,8	7	0,4796	0,8881	7,1762	1,03248948	-43,17	-10,0000	22,3
93	0,4796	0,8881	7,1841	1,01698493	-27,38	-10,0000	6,9	7	0,4796	0,8881	7,1841	1,03248948	-42,88	-10,0000	22,0
93	0,4796	0,8881	7,1920	1,01698493	-27,21	-10,0000	6,8	7	0,4796	0,8881	7,1920	1,03248948	-43,21	-10,0000	22,3
94	0,4796	0,8881	7,2000	1,01684843	-27,11	-10,0000	6,7	6	0,4796	0,8881	7,2000	1,032727805	-43,37	-10,0000	22,5
94	0,4796	0,8881	7,2079	1,01684843	-27,23	-10,0000	6,8	6	0,4796	0,8881	7,2079	1,032727805	-43,21	-10,0000	22,3
94	0,4796	0,8881	7,2158	1,01684843	-27,11	-10,0000	6,7	6	0,4796	0,8881	7,2158	1,032727805	-43,40	-10,0000	22,5
94	0,4796	0,8881	7,2238	1,01684843	-27,24	-10,0000	6,8	6	0,4796	0,8881	7,2238	1,032727805	-43,20	-10,0000	22,3
94	0,4796	0,8881	7,2317	1,01684843	-27,11	-10,0000	6,6	6	0,4796	0,8881	7,2317	1,032727805	-43,43	-10,0000	22,5
94	0,4796	0,8881	7,2396	1,01684843	-27,25	-10,0000	6,8	6	0,4796	0,8881	7,2396	1,032727805	-43,19	-10,0000	22,3
94	0,4796	0,8881	7,2476	1,01684843	-27,10	-10,0000	6,6	6	0,4796	0,8881	7,2476	1,032727805	-43,46	-10,0000	22,5
94	0,4796	0,8881	7,2555	1,01684843	-27,27	-10,0000	6,8	6	0,4796	0,8881	7,2555	1,032727805	-43,17	-10,0000	22,3
94	0,4796	0,8881	7,2634	1,01684843	-27,10	-10,0000	6,6	6	0,4796	0,8881	7,2634	1,032727805	-43,50	-10,0000	22,6
95	0,4796	0,8881	7,2714	1,01671269	-27,00	-10,0000	6,5	5	0,4796	0,8881	7,2714	1,0329679	-43,66	-10,0000	22,7

95	0,4796	0,8881	7,2793	1,01671269	-27,11	-10,0000	6,6	5	0,4796	0,8881	7,2793	1,0329679	-43,50	-10,0000	22,6
95	0,4796	0,8881	7,2872	1,01671269	-27,00	-10,0000	6,5	5	0,4796	0,8881	7,2872	1,0329679	-43,69	-10,0000	22,7
95	0,4796	0,8881	7,2952	1,01671269	-27,12	-10,0000	6,6	5	0,4796	0,8881	7,2952	1,0329679	-43,49	-10,0000	22,5
95	0,4796	0,8881	7,3031	1,01671269	-26,99	-10,0000	6,5	5	0,4796	0,8881	7,3031	1,0329679	-43,72	-10,0000	22,8
95	0,4796	0,8881	7,3110	1,01671269	-27,14	-10,0000	6,6	5	0,4796	0,8881	7,3110	1,0329679	-43,48	-10,0000	22,5
95	0,4796	0,8881	7,3190	1,01671269	-26,99	-10,0000	6,5	5	0,4796	0,8881	7,3190	1,0329679	-43,76	-10,0000	22,8
95	0,4796	0,8881	7,3269	1,01671269	-27,15	-10,0000	6,7	5	0,4796	0,8881	7,3269	1,0329679	-43,46	-10,0000	22,5
95	0,4796	0,8881	7,3348	1,01671269	-26,98	-10,0000	6,5	5	0,4796	0,8881	7,3348	1,0329679	-43,80	-10,0000	22,8
96	0,4796	0,8881	7,3428	1,0165777	-26,88	-10,0000	6,4	4	0,4796	0,8881	7,3428	1,033209785	-43,96	-10,0000	23,0
96	0,4796	0,8881	7,3507	1,0165777	-26,99	-10,0000	6,5	4	0,4796	0,8881	7,3507	1,033209785	-43,79	-10,0000	22,8
96	0,4796	0,8881	7,3586	1,0165777	-26,88	-10,0000	6,4	4	0,4796	0,8881	7,3586	1,033209785	-43,98	-10,0000	23,0
96	0,4796	0,8881	7,3666	1,0165777	-27,01	-10,0000	6,5	4	0,4796	0,8881	7,3666	1,033209785	-43,78	-10,0000	22,8
96	0,4796	0,8881	7,3745	1,0165777	-26,88	-10,0000	6,4	4	0,4796	0,8881	7,3745	1,033209785	-44,01	-10,0000	23,0
96	0,4796	0,8881	7,3824	1,0165777	-27,02	-10,0000	6,5	4	0,4796	0,8881	7,3824	1,033209785	-43,77	-10,0000	22,8
96	0,4796	0,8881	7,3904	1,0165777	-26,87	-10,0000	6,4	4	0,4796	0,8881	7,3904	1,033209785	-44,05	-10,0000	23,0
96	0,4796	0,8881	7,3983	1,0165777	-27,04	-10,0000	6,5	4	0,4796	0,8881	7,3983	1,033209785	-43,75	-10,0000	22,7
96	0,4796	0,8881	7,4063	1,0165777	-26,87	-10,0000	6,4	4	0,4796	0,8881	7,4063	1,033209785	-44,09	-10,0000	23,1
97	0,4796	0,8881	7,4142	1,01644346	-26,77	-10,0000	6,3	3	0,4796	0,8881	7,4142	1,03345348	-44,25	-10,0000	23,2
97	0,4796	0,8881	7,4221	1,01644346	-26,88	-10,0000	6,4	3	0,4796	0,8881	7,4221	1,03345348	-44,09	-10,0000	23,0
97	0,4796	0,8881	7,4301	1,01644346	-26,77	-10,0000	6,3	3	0,4796	0,8881	7,4301	1,03345348	-44,28	-10,0000	23,2
97	0,4796	0,8881	7,4380	1,01644346	-26,89	-10,0000	6,4	3	0,4796	0,8881	7,4380	1,03345348	-44,08	-10,0000	23,0
97	0,4796	0,8881	7,4459	1,01644346	-26,76	-10,0000	6,2	3	0,4796	0,8881	7,4459	1,03345348	-44,31	-10,0000	23,2
97	0,4796	0,8881	7,4539	1,01644346	-26,91	-10,0000	6,4	3	0,4796	0,8881	7,4539	1,03345348	-44,06	-10,0000	23,0
97	0,4796	0,8881	7,4618	1,01644346	-26,76	-10,0000	6,2	3	0,4796	0,8881	7,4618	1,03345348	-44,35	-10,0000	23,3
97	0,4796	0,8881	7,4697	1,01644346	-26,92	-10,0000	6,4	3	0,4796	0,8881	7,4697	1,03345348	-44,04	-10,0000	23,0
97	0,4796	0,8881	7,4777	1,01644346	-26,75	-10,0000	6,2	3	0,4796	0,8881	7,4777	1,03345348	-44,39	-10,0000	23,3
98	0,4796	0,8881	7,4856	1,01630996	-26,65	-10,0000	6,1	2	0,4796	0,8881	7,4856	1,033699005	-44,55	-10,0000	23,4
98	0,4796	0,8881	7,4935	1,01630996	-26,76	-10,0000	6,2	2	0,4796	0,8881	7,4935	1,033699005	-44,38	-10,0000	23,3
98	0,4796	0,8881	7,5015	1,01630996	-26,65	-10,0000	6,1	2	0,4796	0,8881	7,5015	1,033699005	-44,57	-10,0000	23,5
98	0,4796	0,8881	7,5094	1,01630996	-26,78	-10,0000	6,2	2	0,4796	0,8881	7,5094	1,033699005	-44,37	-10,0000	23,3
98	0,4796	0,8881	7,5173	1,01630996	-26,65	-10,0000	6,1	2	0,4796	0,8881	7,5173	1,033699005	-44,61	-10,0000	23,5
98	0,4796	0,8881	7,5253	1,01630996	-26,79	-10,0000	6,2	2	0,4796	0,8881	7,5253	1,033699005	-44,36	-10,0000	23,2
98	0,4796	0,8881	7,5332	1,01630996	-26,64	-10,0000	6,1	2	0,4796	0,8881	7,5332	1,033699005	-44,64	-10,0000	23,5
98	0,4796	0,8881	7,5411	1,01630996	-26,80	-10,0000	6,3	2	0,4796	0,8881	7,5411	1,033699005	-44,34	-10,0000	23,2
98	0,4796	0,8881	7,5491	1,01630996	-26,64	-10,0000	6,1	2	0,4796	0,8881	7,5491	1,033699005	-44,69	-10,0000	23,5
99	0,4796	0,8881	7,5570	1,0161772	-26,54	-10,0000	6,0	1	0,4796	0,8881	7,5570	1,033946382	-44,84	-10,0000	23,7
99	0,4796	0,8881	7,5649	1,0161772	-26,65	-10,0000	6,1	1	0,4796	0,8881	7,5649	1,033946382	-44,68	-10,0000	23,5
99	0,4796	0,8881	7,5729	1,0161772	-26,54	-10,0000	6,0	1	0,4796	0,8881	7,5729	1,033946382	-44,87	-10,0000	23,7
99	0,4796	0,8881	7,5808	1,0161772	-26,66	-10,0000	6,1	1	0,4796	0,8881	7,5808	1,033946382	-44,67	-10,0000	23,5
99	0,4796	0,8881	7,5887	1,0161772	-26,53	-10,0000	6,0	1	0,4796	0,8881	7,5887	1,033946382	-44,91	-10,0000	23,7
99	0,4796	0,8881	7,5967	1,0161772	-26,67	-10,0000	6,1	1	0,4796	0,8881	7,5967	1,033946382	-44,65	-10,0000	23,5
99	0,4796	0,8881	7,6046	1,0161772	-26,53	-10,0000	6,0	1	0,4796	0,8881	7,6046	1,033946382	-44,94	-10,0000	23,8
99	0,4796	0,8881	7,6125	1,0161772	-26,69	-10,0000	6,1	1	0,4796	0,8881	7,6125	1,033946382	-44,63	-10,0000	23,4
99	0,4796	0,8881	7,6205	1,0161772	-26,52	-10,0000	6,0	1	0,4796	0,8881	7,6205	1,033946382	-44,99	-10,0000	23,8
100	0,4796	0,8881	7,6284	1,01604516	-26,43	-10,0000	5,9	0	0,4796	0,8881	7,6284	1,034195631	-45,14	-10,0000	23,9
100	0,4796	0,8881	7,6363	1,01604516	-26,53	-10,0000	6,0	0	0,4796	0,8881	7,6363	1,034195631	-44,98	-10,0000	23,8
100	0,4796	0,8881	7,6443	1,01604516	-26,42	-10,0000	5,9	0	0,4796	0,8881	7,6443	1,034195631	-45,17	-10,0000	23,9
100	0,4796	0,8881	7,6522	1,01604516	-26,55	-10,0000	6,0	0	0,4796	0,8881	7,6522	1,034195631	-44,97	-10,0000	23,8
100	0,4796	0,8881	7,6602	1,01604516	-26,42	-10,0000	5,8	0	0,4796	0,8881	7,6602	1,034195631	-45,20	-10,0000	24,0
100	0,4796	0,8881	7,6681	1,01604516	-26,56	-10,0000	6,0	0	0,4796	0,8881	7,6681	1,034195631	-44,96	-10,0000	23,7
100	0,4796	0,8881	7,6760	1,01604516	-26,41	-10,0000	5,8	0	0,4796	0,8881	7,6760	1,034195631	-45,24	-10,0000	24,0
100	0,4796	0,8881	7,6840	1,01604516	-26,57	-10,0000	6,0	0	0,4796	0,8881	7,6840	1,034195631	-44,93	-10,0000	23,7
100	0,4796	0,8881	7,6919	1,01604516	-26,41	-10,0000	5,8	0	0,4796	0,8881	7,6919	1,034195631	-45,28	-10,0000	24,0