The Tectonic Evolution of the North Qinling Terrane, Qinling Orogen, Central China

Thesis submitted in accordance with the requirements of the University of Adelaide for an Honours Degree in Geology

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TECTONIC EVOLUTION OF THE NORTH QINLING TERRANE

ABSTRACT

The Qinling Orogenic Belt represents a collisional orogen, involving a complex architectural and geological history from the Proterozoic to late Palaeozoic. The timing of plate collision and orogenesis is under debate, due to the presence of highly deformed and metamorphosed exotic terranes within the orogeny. One such terrane is the North Qinling Terrane, which comprises a metasedimentary sequence of gneisses, schists, marbles and amphibolites known as the Qinling group. Its origin and evolution are not well known, but it forms a well-defined tectonic unit separated from the North China Craton by Neoproterozoic and Palaeozoic suture zones and volcanic terranes.
Here I present zircon and apatite U-Pb data, coupled with Perple_X metamorphic constraints. Four metamorphic samples were chosen to examine the tectonic affinity of this terrane, timing of a major metamorphic events and the age of the potential basement. Two granitoid samples are dated to constrain the age of magmatic activity. Detrital zircon U-Pb data puts the formation of the Qinling group schist younger than the late Mesoproterozoic (1067 Ma), showing limited similarities in the zircon age spectra to the Cathasyia Terrane. Felsic gneiss samples are interpreted to be metagranitoids, with their protoliths intruding at ca. 850-900 Ma. Granitoids yielded two ages of magmatism, one in the Neoproterozoic (889.9 ± 6.9 Ma), suggesting similarities with the metagranitoid protoliths. Whilst the other intruded in the Palaeozoic (414 ± 18 Ma), with apatite U-Pb age constrained to 421 ± 16 Ma, suggesting the suite did not reach the apatite closure temperature of 450 ºC in future tectonic events. Timing of metamorphisim is constrained by the zircon record, with an age range between ca. 494-463 Ma through the use of low Th/U ratios of the youngest zircon in three of the four metamorphic samples. This study furthers understanding of Neoproterozoic and Palaeozoic tectonic evolution North Qinling Terrane.

KEYWORDS

Tectonics; Geochronology; China; North Qinling Terrane; U-Pb Zircon

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INTRODUCTION

A collisional orogenic belt is constructed through processes that include arc-arc, arc-continent, and continent-continent collisional, subduction and accretion events (Tang et al. 2015). As such these processes lead to a complex geological setting that takes many different approaches and techniques to unravel. The Qinling Orogen Belt (QOB) of central China is no exception. Here workers have puzzled over the timing of plate collision and orogenesis for many decades, providing multiple models suggesting plate collision in the Neoproterozoic (Wang et al. 2013a, Dong et al. 2014) , the early Palaeozoic (Mattauer et al. 1985., Kröner et al. 1993, Li et al. 1993, Dong et al. 2011b, Wang et al. 2013a), and in the Triassic (Wang et al. 2013a, Dong et al. 2016). Much of this confusion is due to the presence of highly deformed and metamorphosed exotic terranes within the orogen. These terranes may relate to either bounding plate, the North China Craton (NCC) and South China Craton (SCC), to a displaced part of the western Tarim Craton, or be exotic to all presently surrounding blocks. One such exotic terrane is the North Qinling Terrane (NQT). Its origin and evolution are not well known, but it forms a well-defined tectonic unit separated from the North China Craton by Neoproterozoic and Palaeozoic suture zones and volcanic terranes.

Previous theories on how the NQT formed include, the rifting of the NQT off the NCC in the Palaeozoic, forming the Erlangping Back Arc Basin, then reamalgamating with the NCC as the Erlangping Back Arc Basin closed (Zhang et al. 2001, Dong et al. 2011a). Or, the NQT rifting off the NCC from the opening of the Kuanping ocean (Zhang et al. 1995, Dong et al. 2008). Or, The NQT being its own exotic terrane formed through an arc system (Tang et al. 2015, Dong and Santosh 2016).

Finally, the NQT initialised as an intra-oceanic arc in the Paleoproterozoic close to the SCC (Yu et al. 2015).

Past studies have produced zircon U-Pb data that have developed a broad geochronological framework for the NQT (Dong et al. 2011a, Dong et al. 2011b, Wang et al. 2013a, Tang et al. 2015, Yu et al. 2015). In this study both metamorphic and igneous rocks are dated, where field relationships are well characterised, to unravel the tectonic significance of tectonothermal events in the region. In addition to U-Pb zircon dating, granitic apatites are dated using the U-Pb system to constrain when the region last reached the apatite U-Pb closure temperature. Provenance analysis will be performed on the detrital zircon spectra, potentially overlapping with possible source regions that include the South China Block, North China Block (immediately geographically related) and the Tarim Block to the west, as a combination of these blocks or an individual block.

In this study, I aim to examine the tectonic affinity of this terrane by examining the ages and isotopic compositions of detrital zircons separated from the sedimentary protoliths that make up the terrane. This, in turn, enables the determination of the true age of the potential basement. Examining the magmatic zircons and apatites of granites that have intruded through the terrane will gain a minimum age constraint on the terrane as will dating of leucocratic migmatite portions constrain a major metamorphic age.

GEOLOGICAL SETTING/BACKGROUND

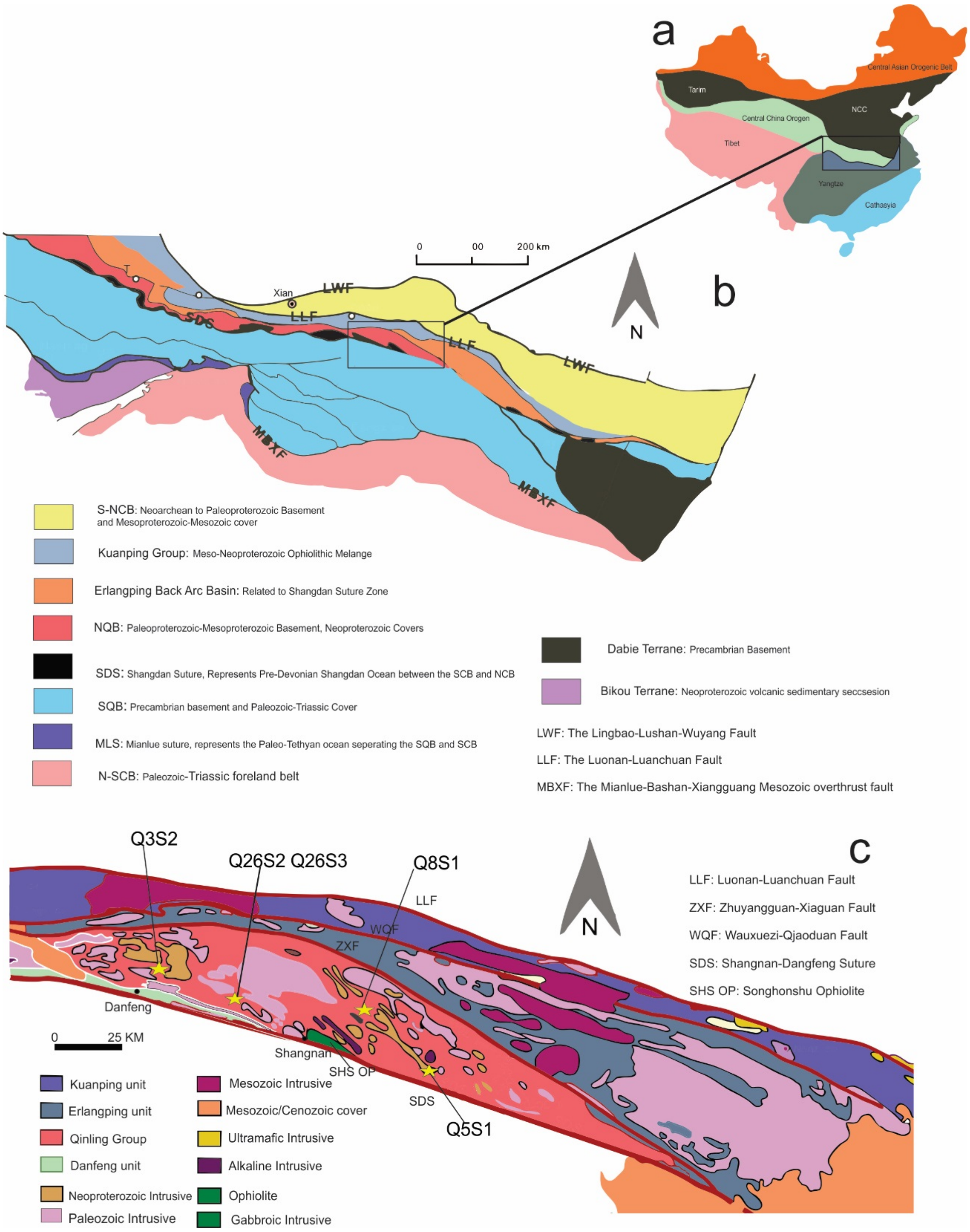

Figure 1 Geological Sketch map of the NQT (C), showing its geographical location within the QOB (B) and China (A). Modified from (Diwu et al. 2014, Tang et al. 2015, Dong and Santosh 2016)

The Central Asian Orogenic Belt, Central China Orogenic belt and Tethys Orogenic belt allowed the amalgamation of many small continental blocks (of which the

North and South China Cratons are included) to form the eastern Asian continent (Dong and Santosh 2016). The field area located in the Central China Orogenic Belt, the North Qinling Terrane (NQT) is bound by the Shangdan suture zone to the south (SDS) (Zhang et al. 1995) (Zhang et al. 2001) and the Erlangping back arc basin and Kuanping suture to the north (Dong et al. 2014). The NQT is located in the Qinling Orogenic Belt (QOB) within the Central China Orogen, in between the North China Block (NCC) and the South Qinling Orogen belt (SQB) which is bordered to the south by the South China Block (SCC) (Fig. 1a).

The study area is the eastern most outcrop (exposure or remnants) of the Qinling group which makes up the basement of the NQT, boarded to the north by remnants of the Kuanping suture. The ophiolitic unit is dated to 1445 ± 60 Ma (Dong et al. 2014) and the overlying greenschist dated to 943 ± 6 Ma giving age constraints on the existence of a Mesoproterozoic ocean (Diwu et al. 2010). The Erlangping suture separates the Kaunping suture from the Qinling Group, with its ophiolite unit representing the closure of a short-lived back-arc basin thought to have existed from the 510-460 Ma (Liu et al. 2016), due to the subduction of the Shangdan Ocean. The Qinling Group is bordered to the south by the Shangdan suture zone (SDS), representing the closure of the Shangdan Ocean which is proposed to have existed from 534-420 Ma (Dong et al. 2011b, Bader et al. 2013).

The Qinling Group compromises three main lithologies within the terrane. The first unit comprises of felsic gneiss. It is interpreted to be metasedimentary and is dominated by metamorphosed psammitic quartzites with pelitic interlayers, but also contains highly deformed gneiss. Garnet bearing felsic gneisses occur in the west where metamorphic grades are interpreted to be highest. Garnet bearing amphibolite is considered to be from continental tholeiitic basalt and has been recovered in the western portion of the Qinling Group, often interlayered with the felsic gneiss. Thick successions of marble that range from pure white and crystalline to transitionally outcrop with calc-silicate fine grain rocks. These are all intruded by vast voluminous granitic suites, dated to the Neoproterozoic and Paleozoic (Wang et al. 2013a).

The age of the basement in the NQT is highly contentious. It is reported to have formed anytime between the Palaeoproterozoic and Neoproterozoic (Yu et al. 2015, Dong and Santosh 2016). With the earliest reported metamorphic event occurring approximately at 1 Ga (Tang et al. 2015, Dong and Santosh 2016, Liu et al. 1993), considered to be an amphibolite facies event. A second major metamorphic event is proposed to have occurred in the lower Paleozoic, from the northward subduction of the Shangdan Ocean under the southern margin of the NQT (534-420 Ma) (Bader et al. 2013, Shi et al. 2013, Li et al. 2014, Yu et al. 2015, Dong and Santosh 2016) .

The Qinling Group was been influenced by voluminous magmatism in both the early Neoproterozoic (979-815 Ma) (Wang et al. 2013a, Dong et al. 2014) and the early Palaeozoic (500-400 Ma) (Wang et al. 2013a). The Neoproterozoic igneous suite has been described as being broken up into two episodes of magmatism. The first (979-911 Ma) episode of S-type granites has been attributed to a syn-collisional tectonic setting (Wang et al. 2013a, Dong et al. 2014). The second (894-815 Ma) episode of I-type granites has been attributed to a post-collisional tectonic setting (Wang et al. 2013a, Dong et al. 2014). These igneous suites have been proposed to have occurred from the amalgamation of NQT and NCC due to the subduction of the Kuanping Ocean south under the NQT (Dong et al. 2014, Dong and Santosh 2016). The Palaeozoic igneous suite has been attributed to the subduction and subsequent collision of the Shangdan

Ocean north under the NQT till its exhaustion, between ca. 507-400 Ma (Wang et al. 2013a).

METHODS

Geochronology

CRUSHING AND MINERAL SEPARATION AND IMAGING:

Rock samples were taken from across five N-S transects along 200km of the broadly E-W elongate outcrop tract. The samples were then prepared at the University of Adelaide, firstly by cutting into fist-sized pieces using the large rock saw. The rocks were crushed using the large jaw crusher and sieved and milled into a fine grain potential zircon fraction (79-400μm). Mineral separation techniques used were panning to gain the dense rock fraction from the crushed and milled sample. Hand magnet and heavy liquid separation techniques further concentrated the zircon fraction. Zircons are then picked under microscope and set using Epicure 2 epoxy mounted in a circular mount. This mount is polished down until zircon cores are exposed. The mounts are then analysed by FEI Quanta 600 Scanning Electron Microscope, with a Gatan Cathodoluminescence (CL) detector attached, to determine where the laser ablation will be shot. Back scatter imaging and edax software were used to determine the rough proportions of elements in an individual grain, this helped with identification of zircon and apatite. Apatites are picked in the same fashion as zircon, however, 100 to 150 apatites are mounted onto a glass slide and set with Epicure 2 epoxy over the grains. The mount is then ground down, polished until the apatites are partially exposed.

Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS)

ZIRCON U/PB GEOCHRONOLOGY

U-Pb geochronology of the zircons was completed using the LA-ICP-MS at Adelaide Microscopy following the methods of Payne et al. (2010). The zircons were ablated with a New Wave Research UP-213 laser, at a laser fluency of ~5-7 J/cm^{-2}, analyses size of 30 μm and frequency 5 htz. Isotopes of ^{206}Pb, ^{207}Pb, ^{208}Pb, ^{232}Th and ^{238}U were analysed. The data obtained were then collated and corrected through the program *Iolite 2.6* (Chew et al. 2014). The Zircon Standard used was GJ to monitor data quality and the standard Plesovic (as unknown) was used to monitor the accuracy of the technique

APATITE U/PB GEOCHRONOLOGY

U-Pb geochronology of apatite was completed using the LA-ICP-MS at Adelaide Microscopy following the methods of (Chew et al. 2011, Chew et al. 2014). The Apatites were ablated with an Agilent 7500cx with attached New Wave Research UP-213 laser, at a laser fluency of ~3-4 J/cm^{-2}, analyses size of 32 μm and frequency 5 htz, Scanned masses of Si^{29}, Cl^{35}, Ca^{44}, Zr^{91}, Pb^{204}, Pb^{207}, Pb^{208}, Th^{232} and U^{238} were analysed. The data obtained was then collated and corrected through the program *Iolite 2.6* (Paton et al. 2011). The Apatite primary standard was Madagascar(Chew et al. 2014) and the secondary standards were MaClure(Thomson et al. 2012), Durango (McDowell et al. 2005) and NIST 610 (Pearce et al. 1997). Apatite grains have varying amounts of common lead leading to predominantly discordant data. Therefore a common lead line was fitted in *Iolite* (Chew et al. 2014) and a Pb^{207} correction applied (Chew et al. 2014).

Pressure Temperature Constraints

PERPLE_X PHASE EQUILIBRIA MODELLING

Phase equilibria calculations were performed using the software programs Perple_X (Connolly and Petrini 2002, Connolly 2005) in the model chemical system Na_2O–CaO–K_2O–FeO–MgO–Al_2O_3–SiO_2–H_2O–TiO_2–Fe_2O_3, using the latest internally consistent thermodynamic dataset 'ds6' (filename hp11ver.dat;(Holland and Powell 2011)) and activity–composition (*a*–*x*) models (White et al. 2014). Calculations in Perple_X are based on Gibbs energy minimisation over a user-specified gridded *P*–*T* or *T*–*X* range. The calculation of pseudosections in Perple_X is automated such that the user only need specify the rock ('bulk') composition, the list of solid-solution phases to be used by the calculation process, the name of the thermodynamic dataset and the *P*–*T* range.

OBSERVATIONS AND RESULTS

Six samples were recovered from the field area. They have been divided into three "Higher Grade", one "lower Grade" metamorphic sample, one early stage granitoid intrusion and one later stage granitoid intrusion.

Sample Petrography and Pressure-Temperature Conditions

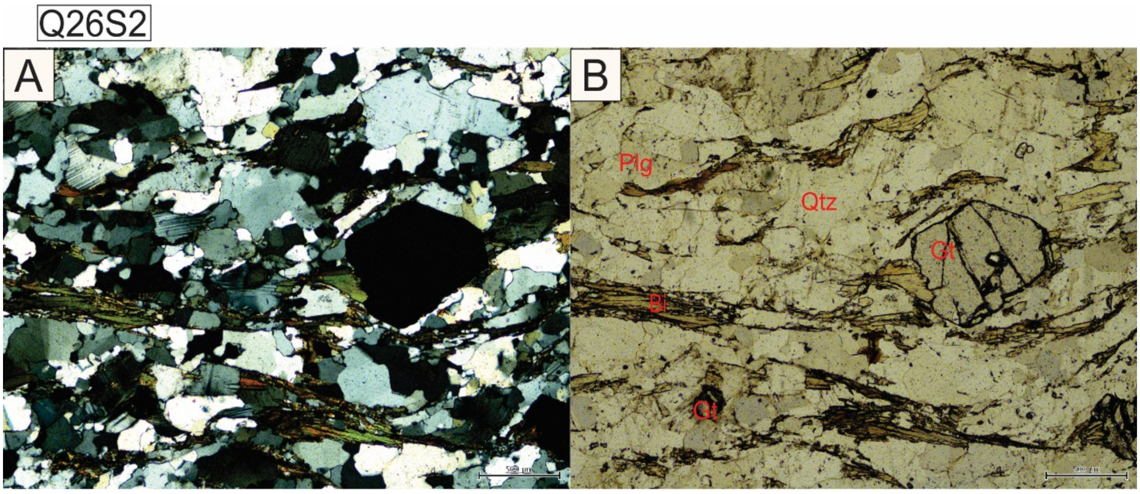

Figure 2 Thin section images of garnet biotite gneiss Sample Q26S2 in both XPL and PPL

A) and B) showing garnet (isotropic in XPL) within quartz plagioclase and biotite matrix that has a granoblastic texture. Brown tabular biotite, pleochroic in PPL defines tectonic fabric and occurs at (and proximal to) boundaries of garnet. Biotite appears green to red brown in XPL. In XPL the matrix grains are subhedral and plagioclase showing twinning.

Sample Q26S2 contains garnet, biotite, quartz, plagioclase, and accessory amounts of apatite, zircon, ilmenite and muscovite. Thin section scale the fabric is composed of biotite that has a weakly crenulated aspect. Subhedral garnets (up to 8mm) occur throughout the thin section with quartz inclusions. The rest of the matrix is made of coarse grain subhedral quartz and plagioclase (up to 5-7mm) and fine grain quartz (1-3mm) which weakly defines fabric and parallels the biotite fabric. In places feldspar alteration to sericite is observed. Accessory apatite is rare, fine-grained and commonly is included in matrix quartz grains and at. Zircon occurs as an accessory mineral along matrix grain boundaries (in contact with biotite and quartz) and is distinguished by its high birefringence, rare muscovite irregularly occurs in fractures and appears to form in the biotite fabric.

The peak mineral assemblage is interpreted to be biotite fabric + coarse quartz + coarse plagioclase + garnet. The latest stage observed is the formation of fine grain muscovite in fractures and within the biotite fabric.

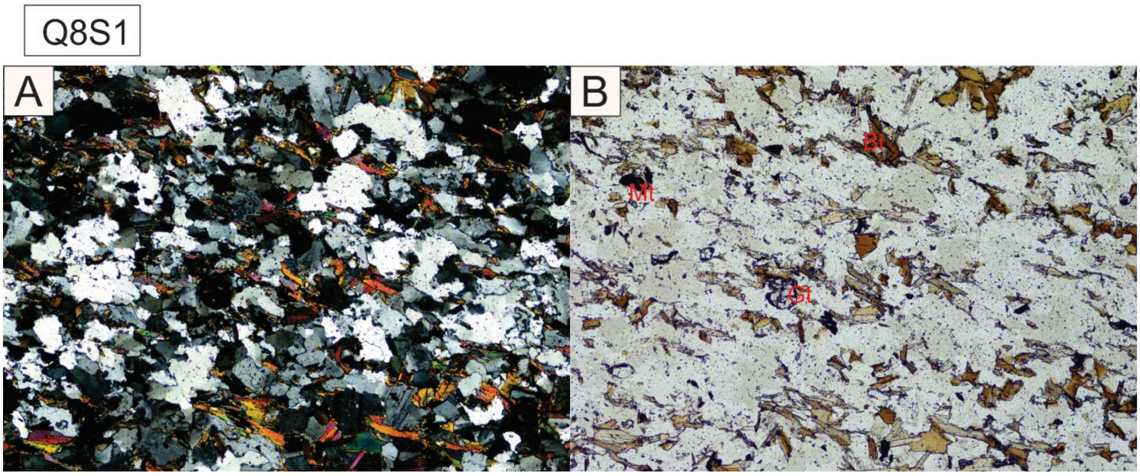

Figure 3 Thin section images of garnet biotite Schist Sample Q8S1 in both XPL and PPL

A) and B) Showing small subhedral garnet (isotropic in XPL) within quartz, plagioclase and biotite matrix that has a granoblastic texture. Brown tabular biotite, pleochroic in PPL defines a weak tectonic fabric but many grains do not follow fabric and have a random orientation. In XPL the matrix grains appear subhedral and plagioclase shows twinning.

Sample Q8S1 contains garnet, biotite, quartz, plagioclase, ilmenite and accessory amounts of apatite and zircon. Thin section scale reveals a weak biotite fabric but otherwise mainly randomly orientated biotite grains in the matrix. Other matrix minerals are coarse grained subhedral quartz and plagioclase (up to 5-7 mm) with quartz inclusions in the plagioclase and biotite inclusions occur within quartz. Rounded subhedral garnets (up to 5 mm) occur uncommonly throughout the thin section, quartz inclusions are present (figure 3). Accessory apatite is rare, rounded, fine-grained and commonly is included in matrix quartz grains and at grain boundaries. Zircon occurs as an accessory along matrix grain boundaries (contact with biotite and quartz) and is distinguished by its high birefringence. The peak mineral assemblage is interpreted to be biotite fabric + quartz + plagioclase + garnet

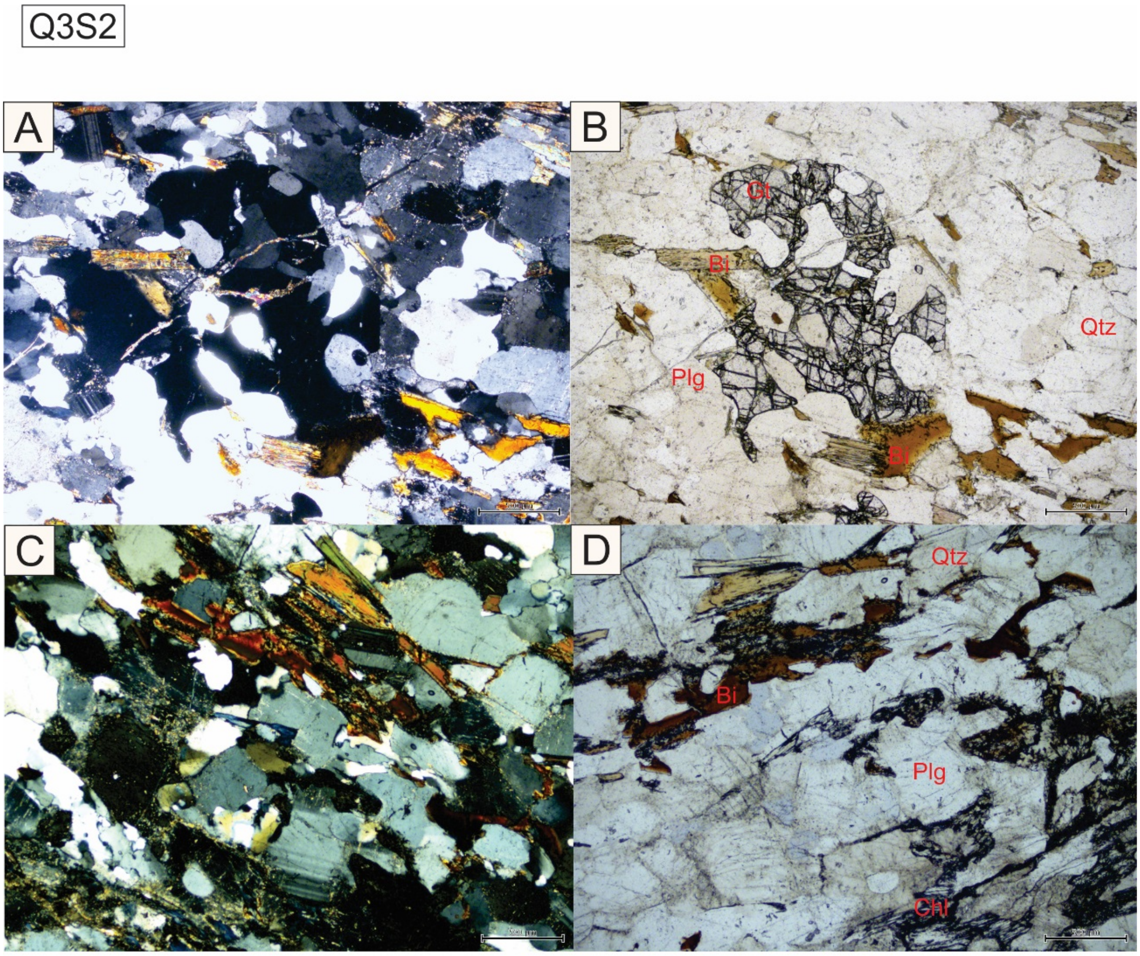

Figure 4 Thin section images of garnet biotite chlorite gneiss sample Q3S2 in both XPL and PPL

A) and B) showing garnet (isotropic in XPL) within quartz plagioclase and biotite matrix that has a granoblastic texture. Brown tabular biotite, pleochroic in PPL defines tectonic fabric and occurs at (and proximal to) boundaries of garnet. Biotite appears green to red brown in XPL. In XPL the matrix grains appear subhedral with plagioclase showing twinning.

C) and D)

In PPL and XPL the biotite fabric can be seen being partially made up of a grey green-blue mineral that appears to have grown at the same time as the biotite. It has an ultra deep blue colour under XPL a characteristic of chlorite. At stages the tectonic fabric is made up of biotite,chlorite or a composite of biotite, chlorite and an oxide (giving the pitted texture).

Sample Q3S2 contains garnet, biotite, quartz, plagioclase, chlorite, ilmenite and accessory amounts of apatite, zircon, and muscovite. Thin section scale reveals a biotite fabric, where biotite is commonly a deep red colour. Large (up to 12mm) poorly shaped garnet ranges from subhedral to anhedral with quartz inclusions and biotite occurring at garnet boundaries (figure 4). The remainder of the matrix consists of coarse grain subhedral quartz and plagioclase (up to 5mm). In places feldspar alteration to sericite is observed. Ilmenite also occurs as fine grain (0.5-2mm) accessory part of the matrix. Chlorite and fine grained Ilmenite are commonly observed in direct contact with biotite. Elsewhere, fabric-defining biotite is no longer present, instead chlorite ± Ilmenite defines the fabric. Rare muscovite irregularly occurs in fractures throughout the sample. Accessory apatite is rare, rounded, fine grained and commonly is included in matrix quartz grains. Zircon occurs as an accessory along matrix grain boundaries (contact with biotite and quartz) and is distinguished by its high birefringence. The peak mineral assemblage is interpreted to be coarse grain biotite + quartz + plagioclase + garnet + Ilmenite. Post peak minerals are interpreted to be the chlorite, fine-grained Ilmenite, and muscovite.

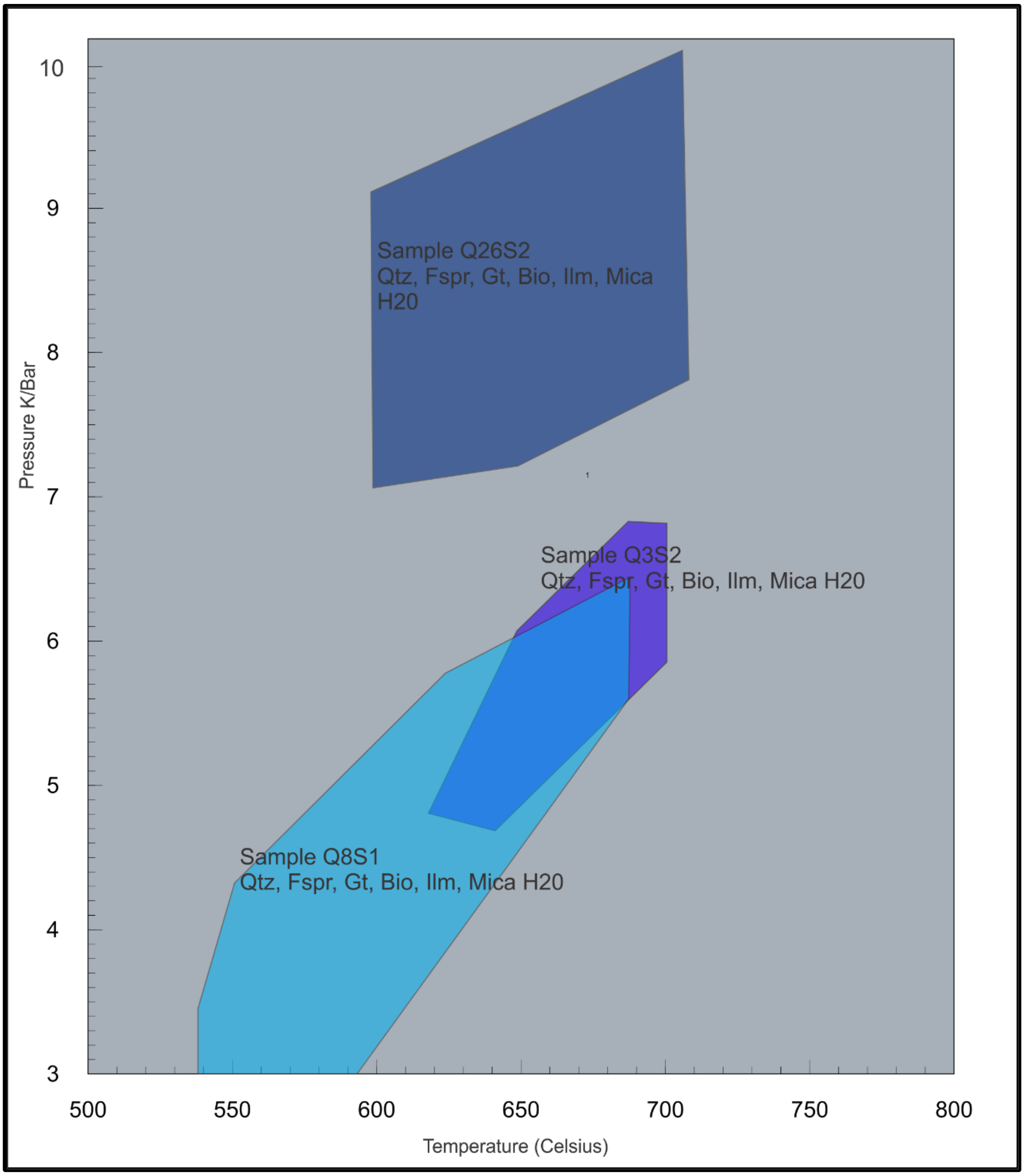

Figure 5: Diagram showing broad pressure-temperature fields for each sample as calculated by Perple_X software. This composite diagram was created to allow for better visual representation of fields and comparison between samples.

Figure 5 shows a clear visual composite representation of Perple_X output and allows comparison between samples Q26S2, Q3S2 and Q8S1. Sample Q26S2 has the highest pressure of the two samples between 6.8-10.2 kbar and temperatures of between 600-700 C°. Giving a rough thermal gradient of between 59-112 C°/kbar. Sample Q3S2 was the best-constrained sample with pressures between 4.6-6.8 K/Bar and temperatures of 600-680 Cº. Giving a rough thermal gradient of between 88-148 Cº/kbar. Sample Q8S1 was least constrained of the three samples and the shape of the field has been simplified for the composite diagram to help to visualise the field. Pressures ranged from 1.3-6.2 kbar and temperatures of between 450-640 Cº

Geochronology U/Pb zircon and U/Pb apatite results

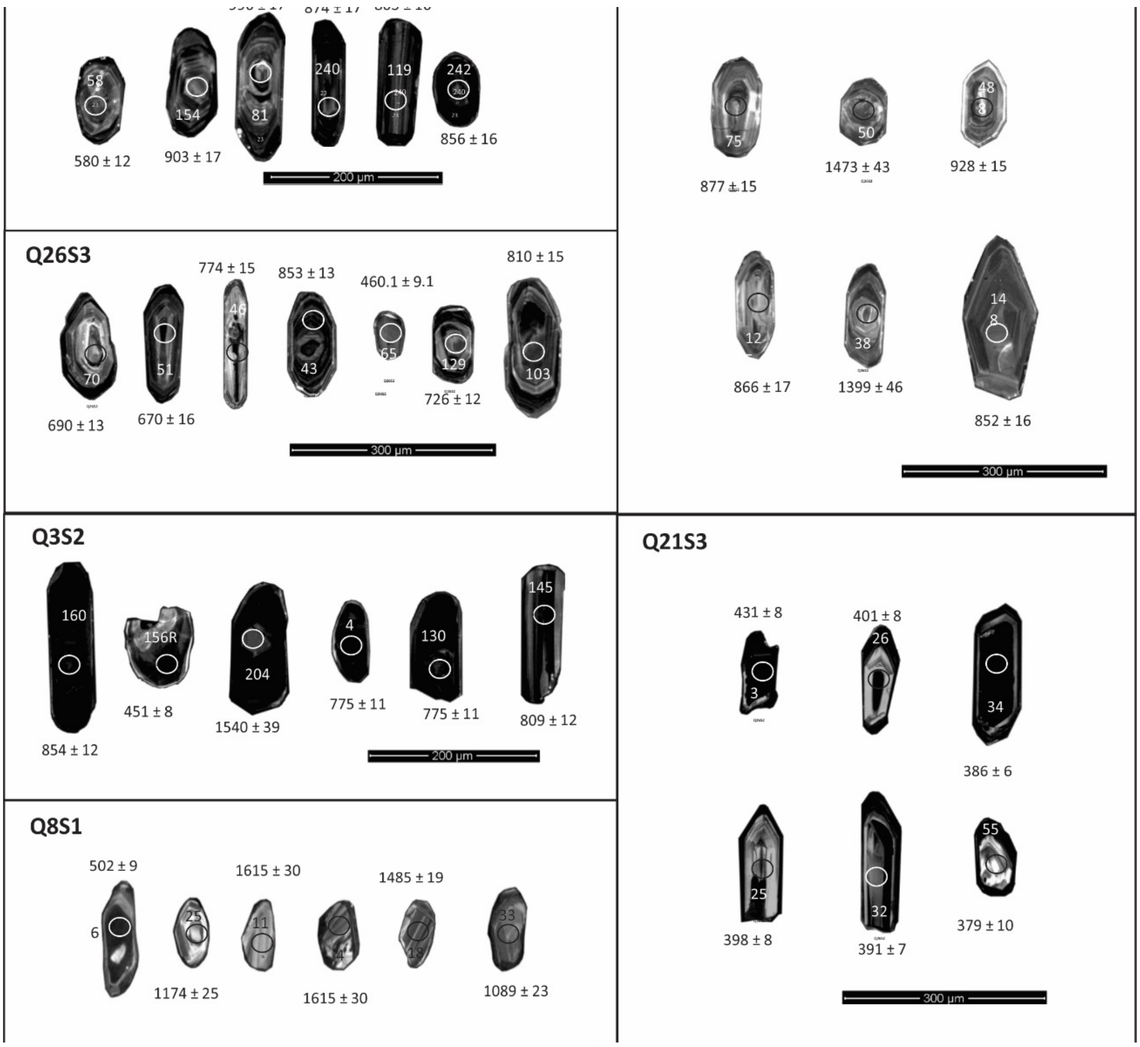

Figure 6: Diagram of representative zircon grain CL images for each sample with ages and the corresponding sample number. The number is representative of order at which the grain was analysed in that sample, R denotes an attempted rim analyses.

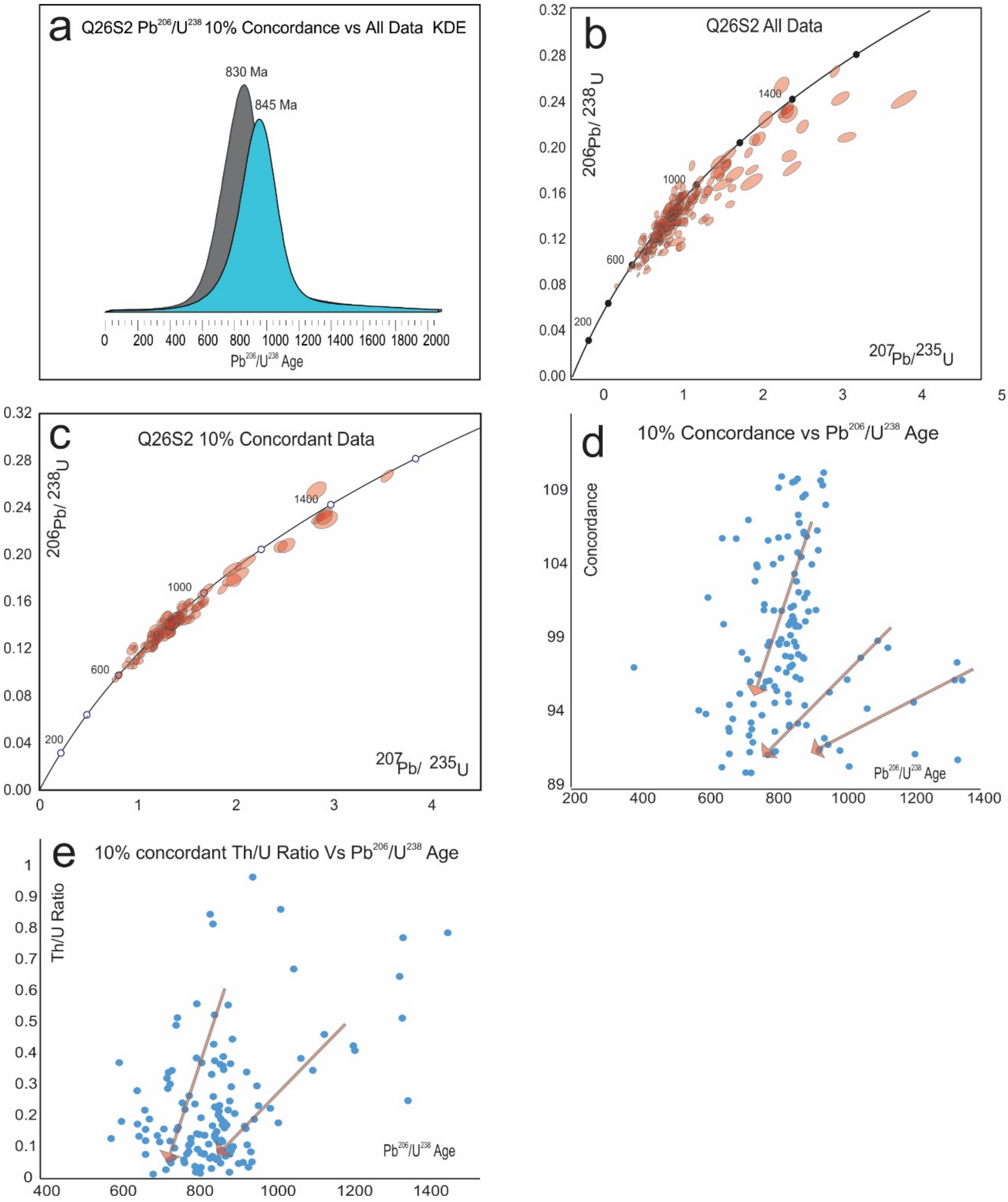

Figure 7: Sample Q26S2 a: A kernel density estimate diagram, with the blue distribution showing 10% concordant data with a maxima of 845 Ma (n=129) and the grey distribution showing all data with a maxima of 830 Ma (n=255). b: Zircon U-Pb Concordia graph showing all data c: U-Pb Concordia graph showing 10% concordant ages d: Graph showing 10% concordance Vs Pb^{206}/U^{238} age e: Graph showing 10 % Th/U Ratio Vs Pb^{206}/U^{238} age

Figure 8: Q26S2: Garnet biotite gneiss (Migmatite) with leucocratic veining within the sample. GPS: N 33 39 53.8 E 110 36 02.5 same location as Q26S2 (sample ruler = 10cm)

Q26S2-GARNET BIOTITE GNEISS

The Zircon grains (figure 6) collected from sample Q26S2 fall within 79-300 µm in size, with shades ranging from pink/red, pink/purple, and brown to clear. The grains ranged from elongate with rounded tips to a rounded oval in shape. There is a varied internal structure in the zircon grain, with variations in growth zoning from broad to tight oscillatory zoning, sometimes with xenocrystic cores present and the occasional occurrence homogenous unzoned zircon. Growth domains were analysed if no cores were present. Metamorphic rims were attempted to be shot with the laser, however, no rims were large enough to produce metamorphic data. Some rims grains were incorrectly shot with the laser as metamorphic rims and were reassigned to the core data.

Zircon $^{238}U/^{206}Pb$ ages range from ca. 580 to 1000 Ma, with discrete near concordant populations at ca. 1.1 Ga and 1.4 Ga (figure 7 b). All $^{206}Pb/^{238}Pb$ ages show a maxima on a kernel density estimate plot at 830 Ma (grey peak) (figure 7 a). When concordance is plotted against $^{206}Pb/^{238}U$ age, two (or three) broad trends of decreasing concordance with age are seen. One trend stretches back to the ca. 1.4 Ga population, with a second from the ca. 1.1 Ga population. The most prominent trend, however, stretches from concordant ca. 900-850 Ma zircons, again to less concordant $^{206}Pb/^{238}U$ ages of 600-700 Ma (Figure 7 d). This plot suggests that the pre-metamorphic zircons in the rock had ages of ca. 1.4 Ga, ca. 1.1 Ga and ca. 900-850 Ma. A Th/U versus $^{206}Pb/^{238}U$ age plot supports this interpretation with many Th/U zircon ratios of >850 Ma zircons of 0.3-1.0, whereas zircons younger than 800 Ma all display Th/U ratios of <0.6, with the majority being of ca. 0.2 or lower (figure 7 e). This low Th/U range is consistent with metamorphic zircon values reported by (Rubatto and Hermann 2007). I suggest that all ages younger than ca. 850 Ma represent zircon that has lost variable amounts of radiogenic Pb. The maximum time of this metamorphic Pb loss is best estimated as being the youngest three zircons of 607-580 Ma, but it could be younger still (see Q26S3 below).

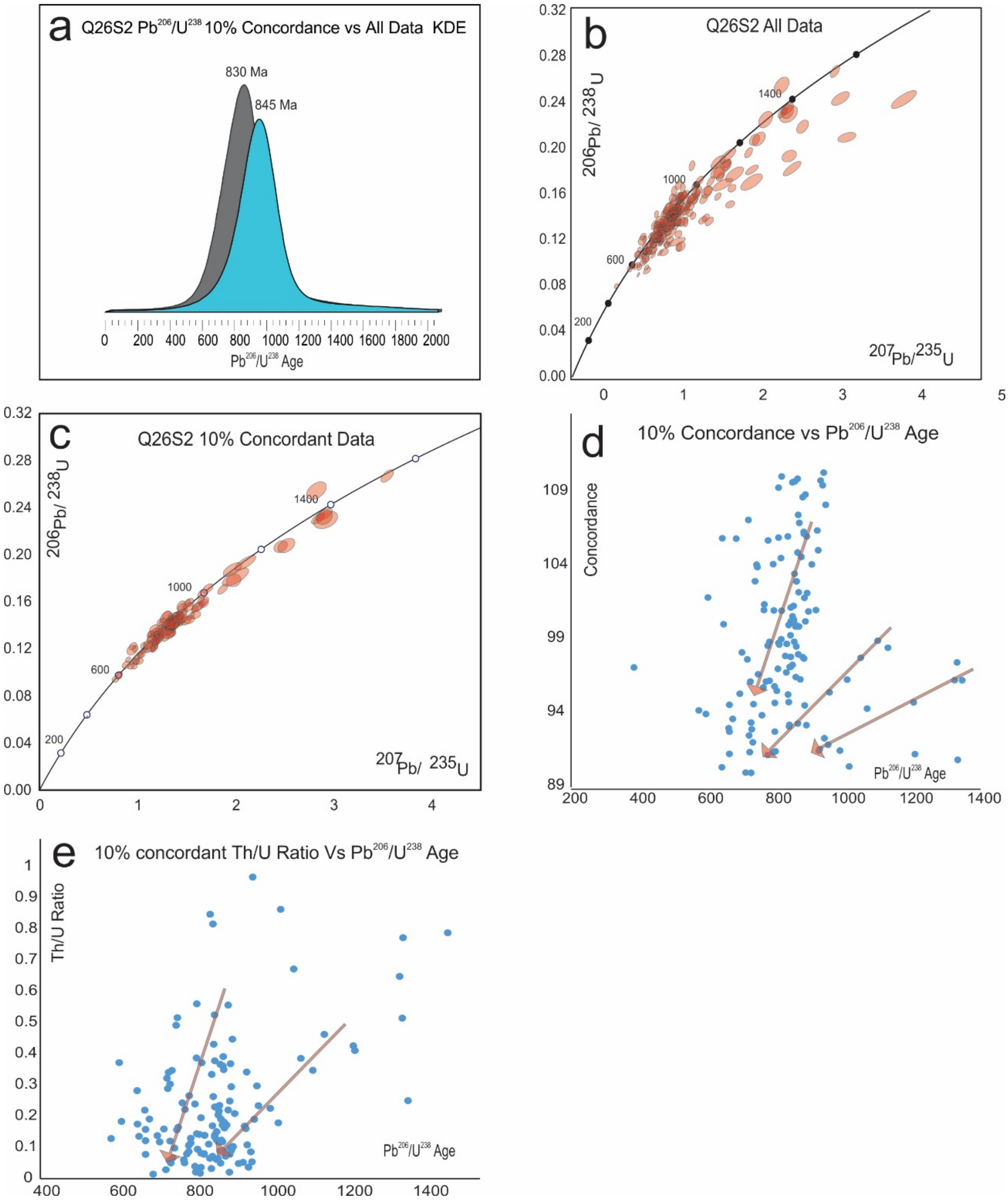

Figure 9: Sample Q26S3 a: A kernel density estimate diagram, with the blue distribution showing 10% concordant data with a maxima of 835 Ma (n=74) and the grey distribution showing all data with a maxima of 788 Ma (n=168). b: Zircon U-Pb Concordia graph showing all data, with inset blown up image of grains between 400-600 Ma c: U-Pb Concordia graph showing 10% concordant ages d: graph showing all Th/U Ratio Vs Pb^{206}/U^{238} age, with the circled blue spots being the young very low Th/U ratio analyses e: graph showing 10% concordance Vs Pb^{206}/U^{238} age f: graph showing a weighted mean of ten young analyses with a less than 0.1 Th/U ratio and a more accurate weighted mean of five of the ten analyses.

Figure 10: Q26S3 deformed felsic gneiss (Migmatite) with leucocratic veining within the sample GPS: N 33 39 53.8 E 110 36 02.5 Same location as Q26S2 (sample ruler = 10cm)

Q26S3- DEFORMED FELSIC GNEISS

The Zircon grains (figure 6) collected from Q26S3 fall within 79-300 µm in size, with shades ranging from pink/red, purple, light brown to clear. The grains ranged from elongate with rounded tips oval in shape, with the occurrence of large pyramidal ended grains. Internal structure of these zircons ranged and cores were common, but if not present internal growth domains were used instead. Many grains produced oscillatory zoning that had varied widths of banding, whilst some grains were homogenous. Few rims were large enough to be analysed, those few that were, were included in all data and yielded similar results to the affected zircon grains. As with prior samples rims were reassigned to the core data.

Whilst the concordia plot of all data shows a spread in the majority of the near-concordant data along the concordia from ca. 900 Ma to ca. 450 Ma (with the main concentration being older than ca. 650 Ma) (figure 9 b), a plot of concordance versus $^{206}Pb/^{238}U$ age shows a decrease in concordance correlating with decreasing age from ca. 900 Ma to ca. 650 Ma (figure 9 e). Followed by a corresponding increase in concordance with decreasing age from ca. 600 Ma to ca. 450 Ma. I interpret this to indicate that the spread of data lie on a discordia line, which is sub-parallel to the concordia over this age range and the imprecision of the LA-ICPMS technique makes differentiation between these interpretations subtle. This interpretation is supported by a plot of Th/U versus $^{206}Pb/^{238}U$ age (figure 9 d) where older analyses yield Th/U ratios significantly higher than those less than 700 Ma results. A discrete population of ten analyses younger than 500 Ma have Th/U ratios less than 0.1 (circled in figure 9 d), suggesting that they either grew in a low Th environment, or diffusionally lost all Th during a metamorphic event (Collins and Buchan 2005, Rubatto and Hermann 2007) I interpret the data to indicate that the rock before metamorphism had Mesoproterozoic zircon of ages ca. 1.5-1.3 Ga and ca. 1.05 Ga as well as a main population of ca. 900 Ma zircon. All younger ages are interpreted to represent cryptically discordant zircon that has lost variable amounts of radiogenic Pb at a time best estimated as 463.1 ± 3.6 Ma. This estimate was considered a better result, as five of the ten young ages yielded a considerably smaller MSWD than a weighted mean of all ten analyses (figure 9 f).

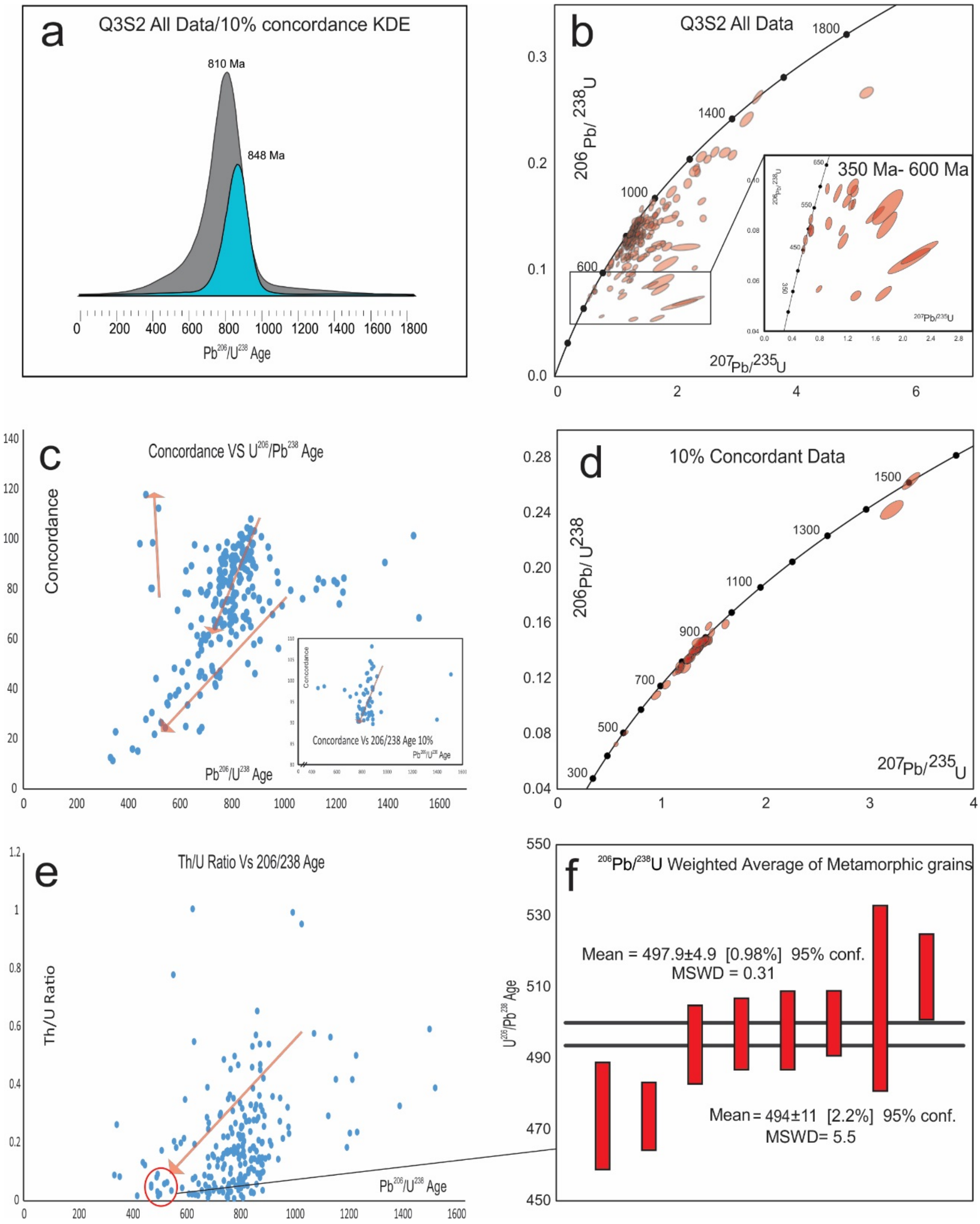

Figure 11: Sample Q3S2 a: A kernel density estimate diagram, with the blue distribution showing 10% concordant data with a maxima of 848 Ma (91) and the grey distribution showing all data with a maxima of 810 Ma (n=223). b: Zircon U-Pb Concordia graph showing all data, with inset blown up image of grains between 350-600 Ma c: graph showing all concordance Vs Pb^{206}/U^{238} age (inset only 10% concordant data) d: U-Pb Concordia graph showing 10% concordant ages e: graph showing all Th/U Ratio Vs Pb^{206}/U^{238} age, with the circled blue spots being the eight young very low

Figure 12: Sample Q3S2: Garnet biotite gneiss (sample ruler = 10cm)
GPS: N 33 46 01.9 E 110 25 13.4
Th/U ratio analyses f: graph showing a weighted mean of eight young analyses with a less than 0.1 Th/U ratio and a more accurate weighted mean of five of the eight analyses.

Q3S2- GARNET BIOTITE GNEISS

The Zircon grains (figure 6) collected from Q3S2 fall within 79-300 µm in size, with shades ranging from light brown to clear. The Grains ranged from elongate (1-4/1-5 ratio) with rounded to pyramidal tips to a rounded and slightly stubby (1-3 ratio). There is as varied internal structure ranging from relatively homogenous to highly oscillatory and tightly banded zoning. Cores were common but if not present internal growth domains were used instead. As with previous samples incorrectly analysed rims were reassigned to core data.

The zircon $^{238}U/^{206}Pb$ ages range from 450 to 1000 Ma (figure 11 b), with near concordant discrete populations occurring at ca. 1Ga, 1.2Ga and 1.4 Ga. The concordia plot does show that the most of the near concordant data is spread between 660 Ma to 950 Ma (with a minor concentration from 450 Ma to 500 Ma). A plot of concordance versus $^{206}Pb/^{238}U$ (figure 11 c) has two trends showing a decrease of concordance correlating with a decrease in age, one trend going back to a ca. 900 Ma population whilst the other to a ca. 1400 Ma population. This is then followed by a sharp increase in concordance at ca. 500 Ma. Suggesting that the pre-metamorphic zircons in the rock had ages of ca. 1.4 Ga, ca. 1.2Ga and ca. 1 Ga and ca. 900-850 Ma. This interpretation can be supported by a plot of Th/U versus $^{206}Pb/^{238}U$ age, showing older analyses that yield Th/U ratios higher than those from results that are less than 750 Ma. A population of eight analyses younger than 510 Ma have Th/U ratios <0.1 (circled in figure 11 e), suggesting as with prior samples formation in a low Th environment, or loss of Th during a metamorphic event (Collins and Buchan 2005, Rubatto and Hermann 2007)A weighted mean was then taken of the 5 similarly clustered metamorphic ages (figure 11 f), giving a better constrained 497 ± 4.9 Ma, which I interpret to be the best estimate of the timing of variable radiogenic Pb loss. The rock can be interpreted to have had Mesoproterozoic zircon of ages ca. 1.5-1.4 Ga and ca. 1.2 Ga, as well as a main population of ca. 850 Ma zircon prior to the interpreted metamorphism.

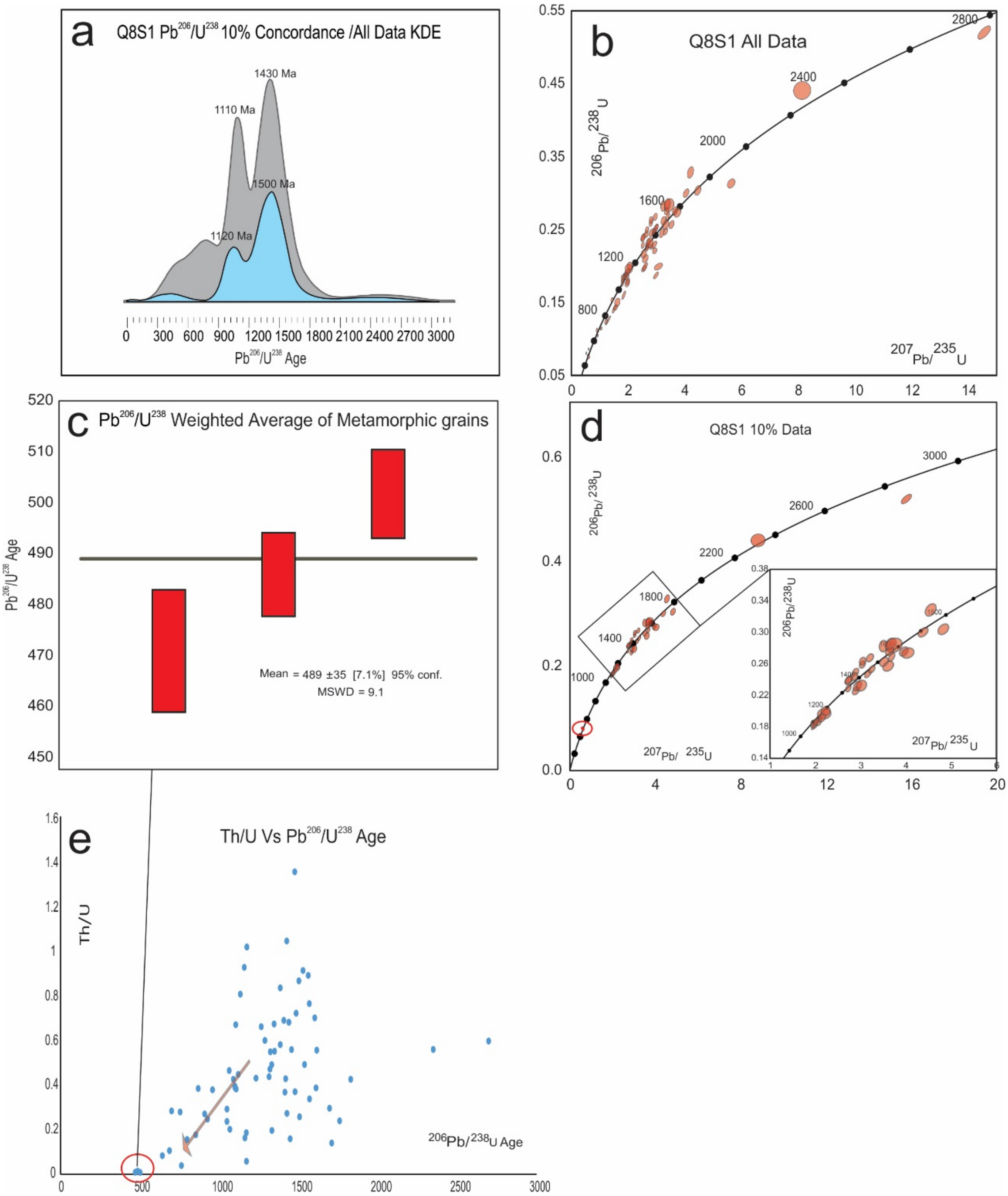

Figure 13: Sample Q8S1 a: A kernel density estimate diagram, with the blue distribution showing 10% concordant data with a maxima of 1500 Ma and 1120 Ma (n=35), with the grey distribution showing all data with a maxima of 1430 Ma and 1110 Ma (n=70). b: Zircon U-Pb Concordia graph showing all dataMa c: graph showing a weighted mean of three young analyses with a less than 0.1 Th/U ratio. d: U-Pb Concordia graph showing 10% concordant ages, with inset blown up image of grains between 1000-1800 Ma d: graph showing all Th/U Ratio Vs Pb^{206}/U^{238} age, with the circled blue spots being the three young very low Th/U ratio analyses

Figure 14: Sample Q8S1: garnet biotite schist (sample ruler = 10cm) GPS: N 33 37 44 E 111 02 31.1

Q8S1-GARNET BIOTITE SCHIST

The Zircon grains (figure 6) collected from Q8S1 fall within 79-200 µm in size, with shades ranging from pinkish to grey to clear. The grains oval shape and rounded (1-2/1-3 ratio) with a handful more elongate (1-4/1-5 ratio) with rounded tips. Complex oscillatory zoning does occur, however, homogenous cores that took up most of the grain space were common. A large percentage of the grains were very bright under CL relative to the gneissic samples grains. The number of zircon grains is scarce in comparison to other samples, yielding seventy analyses, of which thirty-seven are concordant. The amount of collected analyses, however, is still sufficient to have a significant impact on the age and origin of the rock.

The zircon $^{238}U/^{206}Pb$ ages range from ca 480 Ma to 2700 Ma (figure 13 b), with the main concentration of data ranging from ca. 1120 to 1830 Ma. All $^{206}Pb/^{238}Pb$ ages show a maxima on a kernel density estimate plot at ca. 1120 Ma and 1500 Ma, comparative to the maxima of the 10% concordant data (figure 13 a). A population of three analyses younger than 500 Ma have Th/U ratios <0.1 (circled in figure 13 e), implying, as with previous samples (Q26S3, Q3S2), that these three grains had undergone Th loss from a metamorphic event, or that they have grown in an environment low in Th (Collins and Buchan 2005, Rubatto and Hermann 2007). These youngest ages are interpreted to represent zircon that has lost variable amounts of radiogenic Pb, with a weighted mean of 489 ± 35 Ma. An MSWD of 9.1 however, is deemed too high to be reliable. Therefore the youngest sample is considered to be the best estimate for the timing of radiogenic lead loss. As this sample is interpreted to be metasedimentary, its best estimate for the formation age of the protolith is its youngest concordant Pb^{206}/U^{238} age of 1067 Ma.

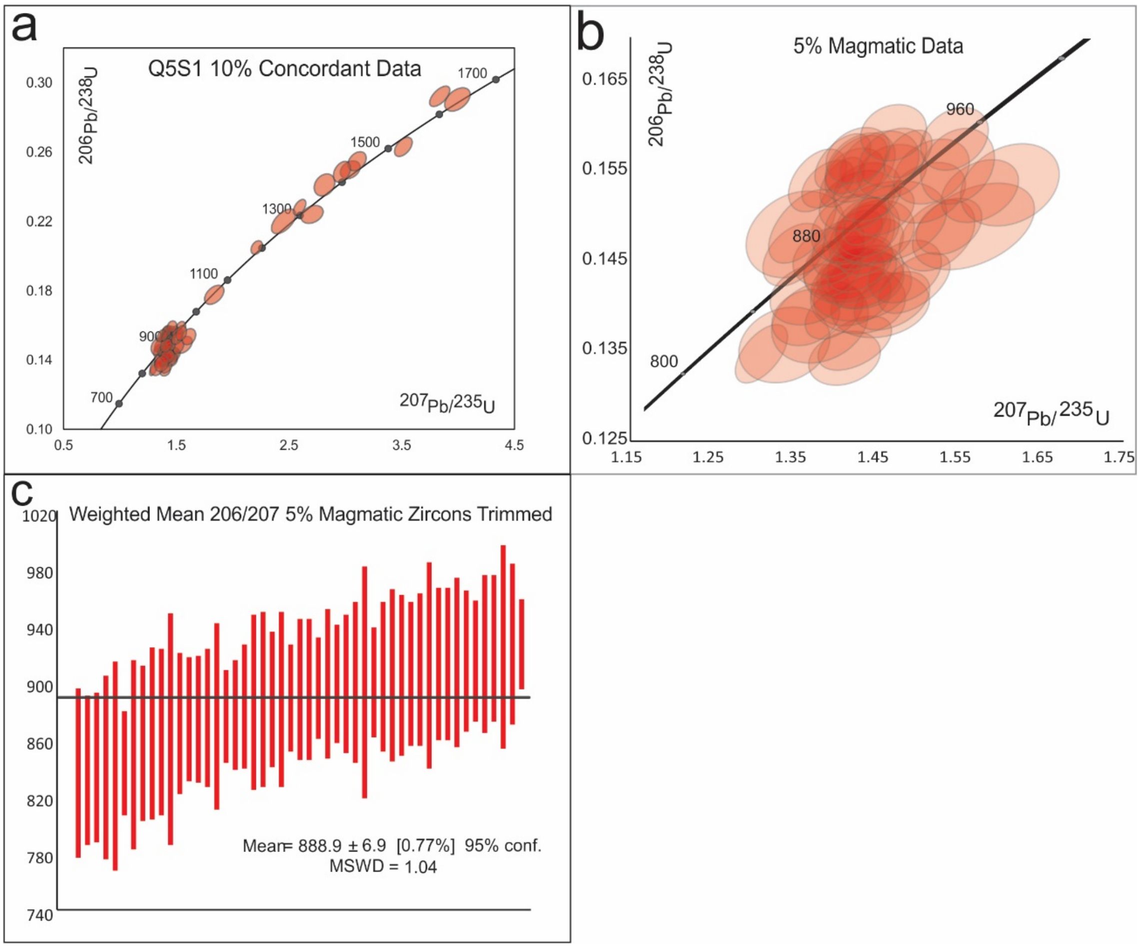

Figure 15: Sample Q5S1 Granite a: U-Pb Concordia graph showing 10% concordant ages. The data point error ellipses are to 2σ. B: 5% Concordia magmatic data (excludes perceive inherited zircons). The data point error ellipses are to 2σ. C: Weighted Mean of 5% zircon grains (206/207 age) with the first 7 grains trimmed after being rejected

Figure 16: Sample Q5S1 Neoproterozoic Granite

Q5S1-EARLY STAGE GRANITE

The Zircon U/Pb dataset has 99 analyses that are within 10% of concordance (figure 6) and 71 analyses within 5%. The major population of 5% grains are a cluster of analyses from 809-953 Ma ($^{206}Pb/^{238}U$ age), this population is interpreted to have grown as the magma crystallised (figure 15 a). There is a spread between 1070-1651 Ma with 12 out of 71 concordant analyses. These analyses are considered to be inherited zircons as they fall outside the two standard deviations of the magmatic cluster. Greater than 95% concordant $^{206}Pb/^{238}U$ ages of the ca. 810-950 Ma population yielded an age of 890 ± 10 Ma (MSWD = 24). The high MSWD indicates that this is not a good estimate of crystallisation. An inspection of the data spread in (figure 15 b) shows that the data lie along a broad discordia trend suggesting that some radiogenic Pb loss has occurred. This is reflected in the lower MSWD of the $^{207}Pb/^{206}Pb$ weighted average of the same data that yields an age of 889 ± 7 Ma (MSWD = 1.04). By trimming the oldest five analyses (which are interpreted to be too old due to small amounts of common Pb or possibly older inheritance), and the two youngest analyses that may also have some common Pb, a $^{207}Pb/^{206}Pb$ weighted mean age of 889 ± 7 Ma (MSWD - 1.04) (figure 15 c) is obtained, which I interpret as the best estimate for the time for crystallisation of the granitoid magma.

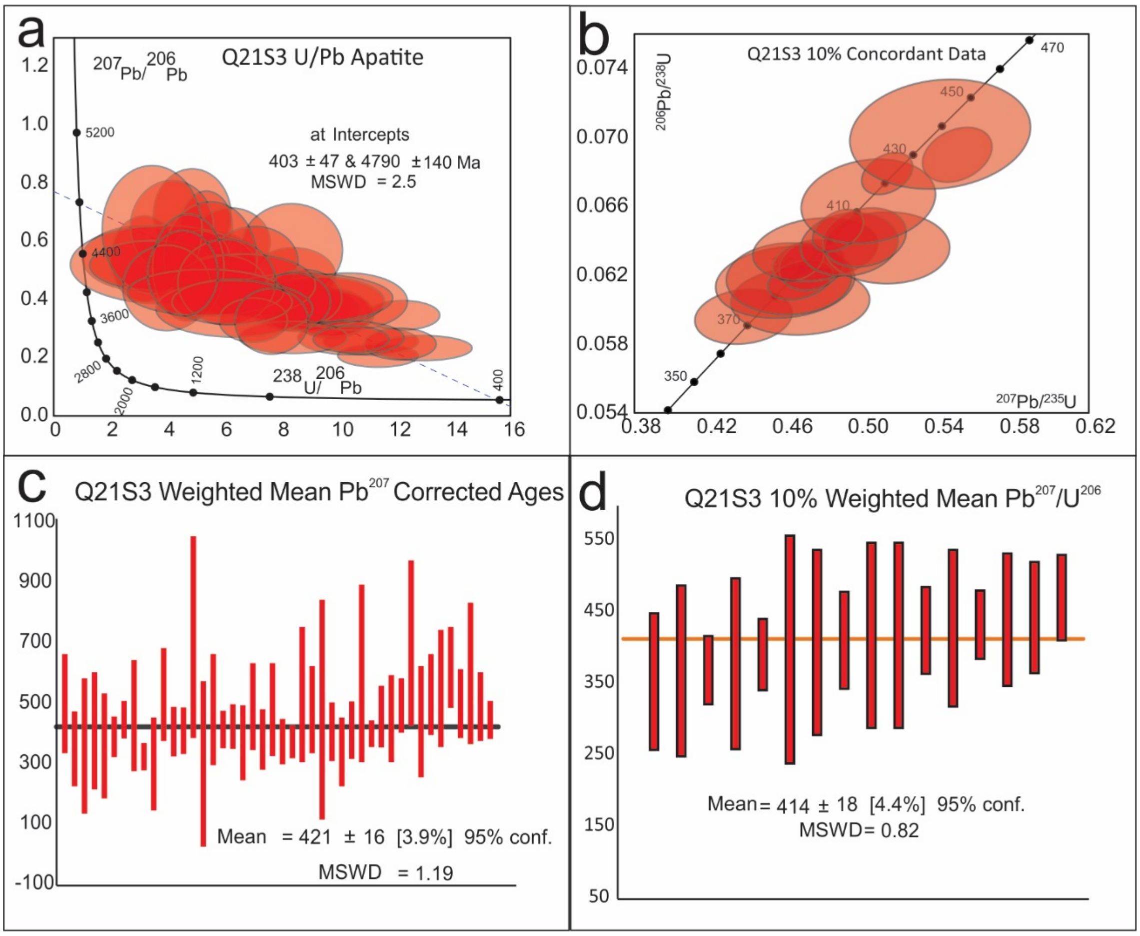

Figure 17: Sample Q21S3 granite a: Apatite U-Pb Terra-Wasserburg graph showing discordia line, with intercepts. b: 10% Concordia magmatic data, The data point error ellipses are to 2σ. c: Weighted mean of Pb^{207} corrected ages d: Weighted Mean of Pb^{207}/Pb^{207} age 10% zircon grains

Figure 18: Sample Q21S3 Paleozoic granite (sample ruler = 10cm)

Q21S1-LATE STAGE GRANITE

The yield of 16 analyses that are within 10% of concordance in the dataset (figure 17 b). The main population of grains that are within 10% concordance range from 373- 438 Ma ($^{206}Pb/^{238}U$ age), the population is interpreted to have grown as the magma crystallised. The greater than 90% concordant $^{206}Pb/^{238}U$ ages of the ca. 373-438 Ma population yielded an age of 399 ± 9 Ma (MSWD = 18). The high MSWD indicates that this is not a good estimate of crystallisation. The lower MSWD of the $^{207}Pb/^{206}Pb$ weighted average of the same data that yields an age of 414 ± 18 Ma (MSWD – 0.82). This age is interpreted to be the best estimate for the time for crystallisation of the granitoid magma.

The U/Pb apatite data is presented as a common Pb^{207} corrected Tera-Wasserburg Concordia plot (figure 17 a). The lower intercept gave an age of 403 ± 47

(MSWD – 2.5), with a weighted mean of corrected Pb^{207} ages yielding a mean age of 421 ± 16 (MSWD – 1.19) (figure 17 c). These U/Pb Apatite age results agree with the U/Pb zircon age results showing similar weighted mean ages with satisfactory MSWD. I interpret these apatite data to show that this granite did not reheat to 450ºC apatite U/Pb closure temperature (Schoene and Bowring 2007)during the latest Mesozoic orogeny (Dong et al. 2016).

DISCUSSION

Nature of the Protoliths of the North Qingling Terrane

The Qinling Group forms an extensive metasedimentary sequence throughout the terrane of marbles, amphibolite, and schists. Sample Q8S1 is an example of these schists, it represents a sedimentary rock, which formed as a part of this extensive sedimentary sequence. This metasedimentary sequence has been intruded by Neoproterozoic granitoids, of which sample Q5S1 is an example. The plutons have been recorded throughout the terrane (Wang et al. 2013a). In the western section of the outcropping terrane, there are reports of amphibolite-facies gneisses and migmatites that are commonly aligned in a linear fashion (samples Q26S2,Q26S3, and Q3S2) (Shi et al. 2013). There are no definitive metapelites within them, however, they are composed of dominantly felsic gneisses and amphibolites. Based purely on lithology alone the rocks could represent psammitic gneisses or metagranitoids. The zircons recovered from these gneisses are comparative to those found in the Neoproterozoic granitoids, with few Mesoproterozoic grains and dominant 850-900 Ma zircons. Based on this distribution, I interpret that the protoliths of the amphibolite-facies gneisses and migmatites were granitoids of the early Neoproterozoic granitoid suite. Finally, intruding through the terrane are voluminous suites of Palaeozoic granitoids (Wang et al. 2013a) (sample Q21S3), the obtained age results put the intrusion postdating the constrained high-grade metamorphism.

Age of Protoliths of the North Qingling Terrane

The oldest age constraint obtained was the maximum depositional age of the pelitic protolith to the schist, yielding a $^{206}Pb/^{238}U$ age of 1067 ± 15 Ma (or 1093 Ma $^{207}Pb/^{206}Pb$). This is comparatively older than the age of the dated granitoid samples, implying that they have intruded the sedimentary sequence post deposition, this gives an upper age constraint at 1067 ± 15 Ma and a lower age constraint of 889 ± 7 Ma. Sample Q5S1 has a well constrained age of 889 ± 7 Ma, placing the timing of crystalisation in the early Neoproterozoic. This age overlaps with the interpreted pre-metamorphic age range of 850-900 Ma for the metagranitoids (samples Q3S2, Q26S2, and Q26S3). The youngest dated sample, Q21S3, is an early Palaeozoic granite well constrained to 414 ± 18 Ma via zircon U-Pb dating, and an apatite U-Pb age of 421 ± 11 Ma.

These results have an impact on the interpretation of the literature of the Qinling Group and the North Qinling Terrane. Previous authors have suggested a Paleoproterozoic aged basement for the North Qinling Terrane (Zhang et al. 2001, Yu et al. 2015). From this study, there is little evidence for the existence of a Paleoproterozoic basement, with only minor detrital grains being of late Paleoproterozoic age or older in sample Q8S1, and minor inherited grains of similar age in the grainitoid sample Q5S1, with no similar aged detritus in other samples. As such, there does not appear to be much evidence for a Paleoproterozoic aged basement to the sedimentary sequence. The interpreted metagranitoids appear to have the same early Neoproterozoic age range that is reported in the literature, describing the latest age constraints for the formation of the Qinling sequence (Shi et al. 2013, Diwu et al. 2014). Therefore, this study has found no evidence of a late Neoproterozoic age for the Qinling metasedimentary sequence, only for the metagranitoids covering this sequence. A Mesoproterozoic age for the protolith, however, can be supported with detritus ages of ca. 1.6 Ga, 1.4 Ga and ca. 1.1-1.2 Ga appearing in the metasedimentary sample, including many inherited zircons in the Neoproterozoic granitoid and interpreted metagranitoids. These metasedimentary results show similarities with the upper limits of theories (ca. 1050 Ma) of late Mesoproterozoic formation for the Qinling metasedimentary sequence protolith (Tang et al. 2015).

Age and Nature of Metamorphism in the North Qinling Terrane

SAMPLE	METAMORPHIC AGE	P/T CONDITIONS
Q8S1	471 ± 12 Ma	1.3-6.2 K/Bar 450 to 640 Cº
Q26S2	Age not recorded	6.8-10.2 K/Bar 600-700 Cº
Q26S3	463.1 ± 3.6 Ma	(same outcrop as Q26S2)
Q3S2	497 ± 4.9 Ma	4.6-6.8 K/Bar 600-680 Cº

Table 1: Comparative table of metamorphic samples metamorphic age and pressure and temperature conditions

Here I constrain the timing of metamorphism with a lower estimate of 463 Ma and an upper estimate of 497 Ma (table 1), devised from low Th/U ratio young zircon populations across most samples, that indicate the interpreted radiogenic Pb loss from either the diffusional loss of Th or growth in a low Th setting (Rubatto and Hermann 2007) as previously discussed. These age constraints show that a metamorphic event developed across the North Qinling Terrane, owing to the geographical differences of the samples. Palaeozoic metamorphism is a strongly debated topic, with multiple metamorphic events proposed between ca. 500 Ma and Ca. 400 Ma (Liu et al. 2016).

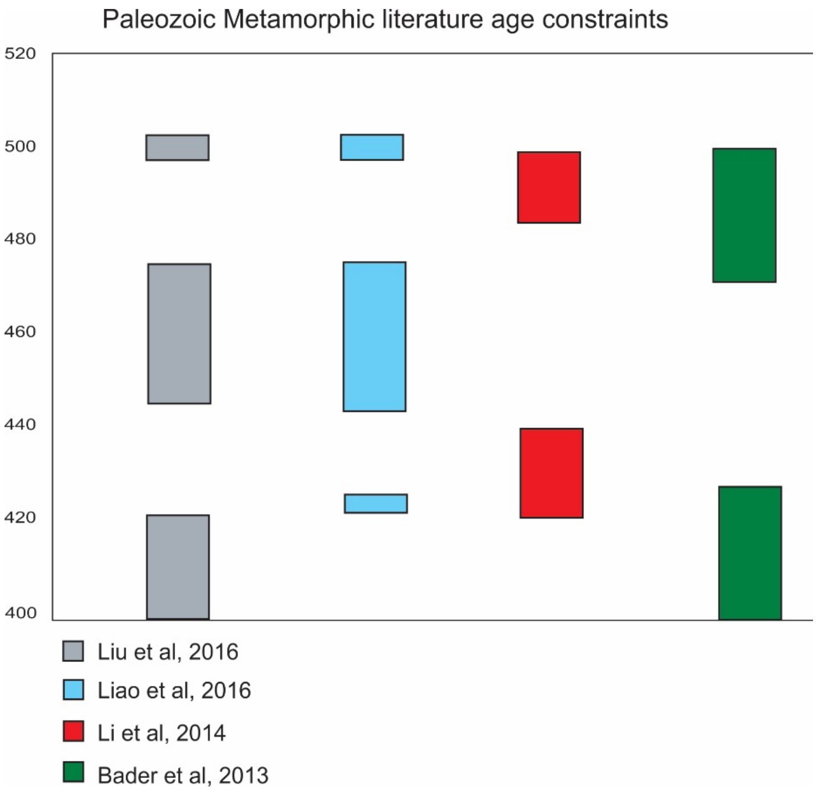

Figure 19: A diagram to allow for comparison of proposed timing of metamorphic events in the North Qinling Terrane during the early Palaeozoic. Coloured bars indicate the constrained timing and length of the metamorphic event.

Much of the literature on the metamorphism of the North Qinling Terrane has focused on the high pressure (HP) to ultra-high pressure (UHP) rocks in the Songhonshu ophiolite (Li et al. 2014, Yu et al. 2016) and proposed eclogite facies out crops (Bader et al. 2013, Liao et al. 2016, Liu et al. 2016) along the southern and northern boarders of the terrane. The common age ranges that authors have postulated are an HP-UHP event at ca. 500 Ma (figure 19) from possible continental collision and continental subduction (Liao et al. 2016, Liu et al. 2016) and a retrograde amphibolite facies event between ca. 480-450 Ma (figure 19) (Bader et al. 2013, Liao et al. 2016, Liu et al. 2016).There is also reference to less intense high-temperature event at ca. 420 (Liao et al. 2016).

Due to the bulk of prior work focusing on reported eclogites, pressures that are reported range from 10-30 kbar, with temperatures of between 530-850 ºC, which are from subduction-related metamorphism (Bader et al. 2013, Li et al. 2014, Liao et al. 2016, Tang et al. 2016). As such, these conditions are not comparable to those roughly constrained in this study. Conversely, the Qinling complex has pressures and temperatures reported as 5-7 kbar at ca. 700 ºC (You et al. 1993), these P/T conditions are within the broad ranges defined in this study.

From review of other the studies previously discussed (table 1) and comparing to this study's constrained estimates of timing of metamorphism, there appears to be potential correlation to the literature. With age metamorphic constraints for crustal rocks of this study between 463 Ma and 497 Ma, the proposed HP-UHP episode at ca. 500 Ma or amphibolite facies retrogression at 480-450 Ma could have been related to a more regional metamorphic event, and caused the interpreted radiogenic Pb loss recorded in the zircon grains, however the results are not diagnostic of this event. There was no evidence for a high-temperature event at ca. 400-420 Ma (Li et al. 2014) in the zircon record of this study, but the age of intrusion of the undeformed granitoid sample Q21S3 occurs at a similar time, with no resetting of the U-Pb apatite system in the granite. Suggesting that the temperature of the granite did not reach higher than 450 ºC (Schoene and Bowring 2007) after ca. 420 Ma.

Provenance constraints on the Origin of the North Qinling Terrane

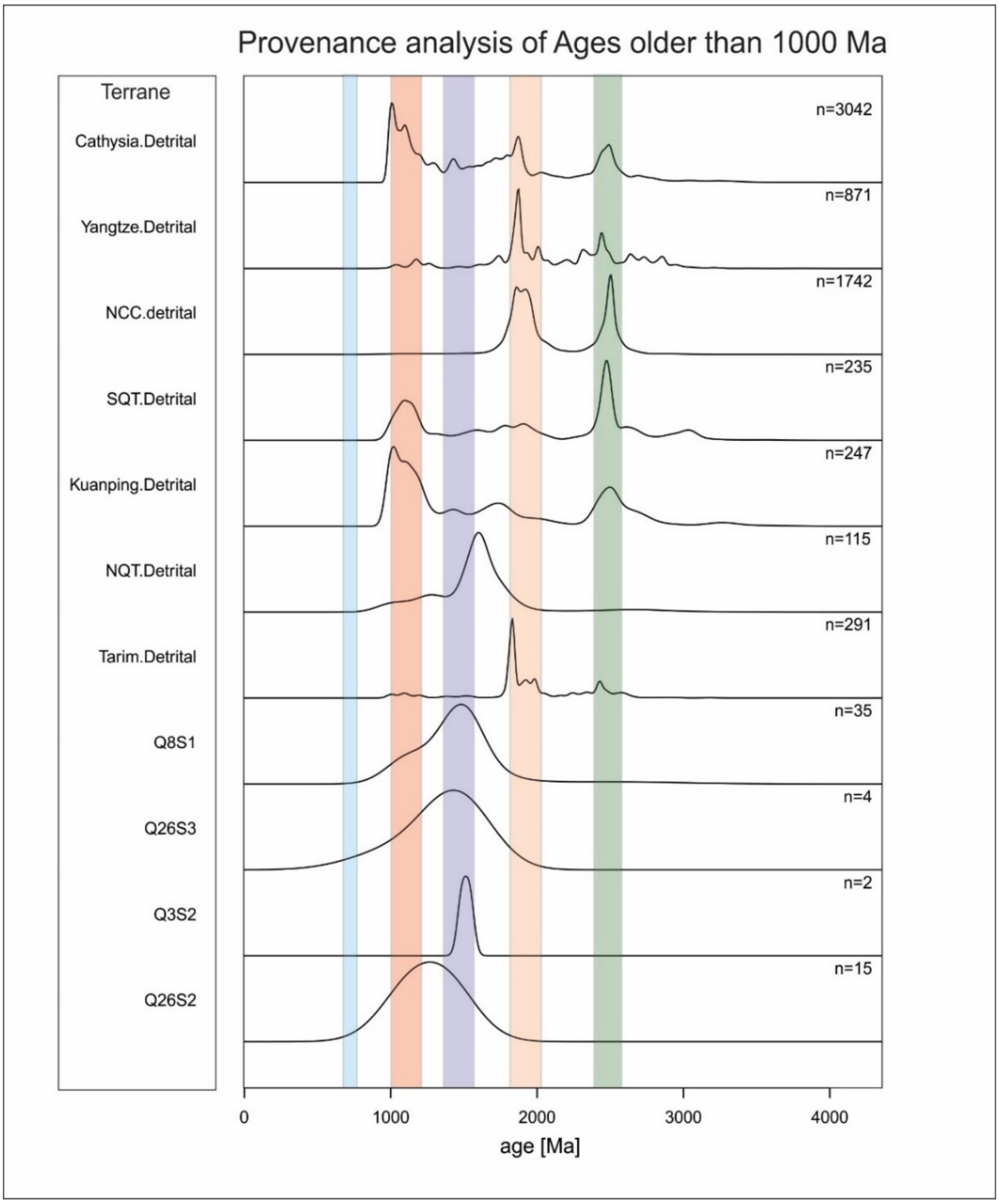

Figure 20 Provenance analysis of all samples older than 1000 Ma against other NQT data, SQT, NCC, catheysia, Yangtze, Kuanping and the Tarim terranes. The 1000 Ma age bracket was chosen to only show ages that are older than the Neoproterozoic granitoids intruding the NQT. This diagram allows for the comparison between metasedimentary sample Q8S1 and other surrounding terranes, as well as comparing similarities of the SQT, Kuanping and other NQT data The blue bar represents where the 900 Ma peak for the three high grade samples would be if included, the red denotes the age peak of 1100 ma for sample Q8S1, the purple denotes the age peak of sample Q8S1 at 1400-500 Ma, with the orange representing the Q8S1 shoulder of 1600-1800 Ma grains and the green denotes the singular grain aged 2400 Ma in sample Q8S1. Grains older than 1000 Ma from the three metagranitoid samples were included for comparison, as these grains were considered inherited from the intrusion of the granitoid protoliths. Data sourced from (Yao et al. 2011, Wang et al. 2013b, He et al. 2014, Wang et al. 2014, Yu et al. 2015 and references therein, Zhang et al. 2015) (Xia et al. 2006, Zhao et al. 2010, Sun et al. 2012, Chen et al. 2013, Yuan et al. 2014, Zhu et al. 2014, Meng et al. 2015, Yao et al. 2015)

Here I bring in the limited age constraints from detrital zircons, namely from sample Q8S1, the only sample interpreted to have a sedimentary protolith. The similarities between all four samples are the source region for zircon grains, considered to be detrital, have ages of ca. 1.6, 1.4 and 1.1-1.2 Ga. The metasedimentary sample compared to other potential source terranes shows that the North China Craton and Tarim Craton do not appear to have any similarities in the late Mesoproterozoic, this argument has been made previously by authors about the North China Craton (Yu et al. 2015). However, a broad age spectra across the Mesoproterozoic (figure 20) in the South China Craton (mainly the Cathasyia block) shows that it is a possibility as a source for the North Qinling Terrane in the late Mesoproterozoic. It is also entirely possible that the North Qinling Terrane is an exotic terrane to all these tested terranes, as there are no definitive sources from provenance analysis.

Although there is quite a reasonable amount of zircon data published from the North Qinling Terrane, there is potential for bias in the record. These bias or issues include authors potentially not taking into account the zircon U–Pb systematics as has been done in this study. This including interpreting Pb loss through the use of Th/U ratios and concordance versus age plots. Recent definitions for the age of the Qinling sequence have changed to an early Neoproterozoic formation (Shi et al. 2013) potentially misdefining the protolith of these samples as sedimentary as opposed to igneous, with the often quoted ca. 850–900 Ma age peak (Shi et al. 2013, Yu et al. 2015). This age peak is derived from the Neoproterozoic granitoid suites that intruded the North Qinling Terrane, therefore, not being useful for the provenance of the Qinling Group.

Constraints on the Tectonic Evolution of the North Qinling Terrane

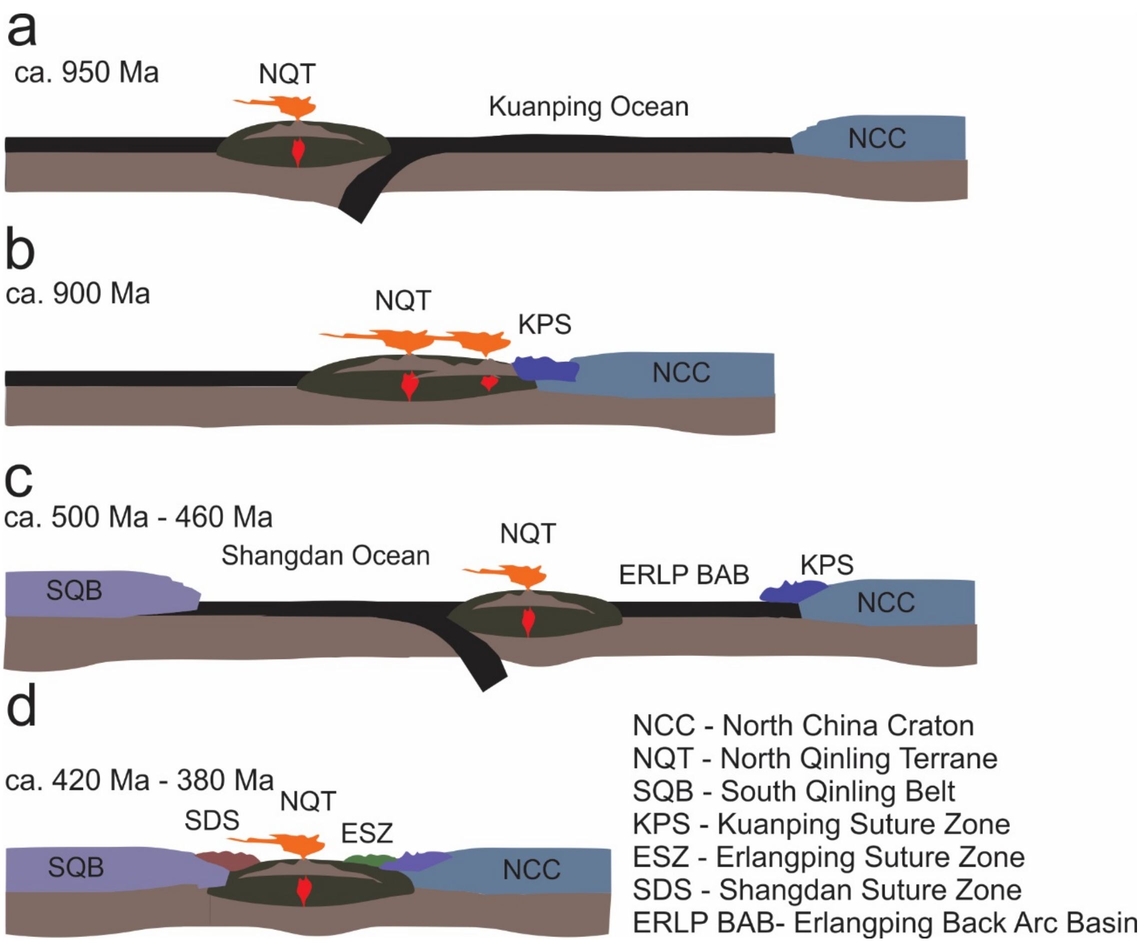

Figure 21: Diagram of potential NQT tectonic evolution from the early Neoproterozoic to Palaeozoic. Modified from Dong and Santosh (2016)

This study has borne results, that when interpreted with previous studies discussed, allow for an understanding of the tectonic setting of the North Qinling Terrane. A sedimentary sequence could possibly have been deposited at ca. 1.1 Ga and as late as 0.9 Ga. It is not clear, however, as to what the basement to this sedimentary sequence is, particularly as no outcrops of this have been found. At ca. 0.9 Ga a continental margin arc developed (figure 21 b), This may have developed by south dipping subduction with a trench to the north, where the Kuanping suture is now preserved as Tonian magmatic rocks (sample Q5S1) interpreted to represent oceanic crust (Wang et al. 2013a, Dong et al. 2014). Little other remaining evidence for subsequent Neoproterozoic events are preserved. But, in the early Palaeozoic, subduction along the southern margin of the North Qinling Terrane has resulted in high-pressure amphibolite facies metamorphism (Liu et al. 2016) and recorded magmatism (Wang et al. 2013a) to develop (figure 21 c). This metamorphism has been preserved in the U/Pb zircon record across the terrane (sample Q26S3, Q8S1, and Q3S2). This is succeeded by the latest extent of a volcanic arc complex (Wang et al. 2013a), in part represented by sample Q21S3. With the final closure of the Erlangping back-arc basin at ca. 460 Ma (Liu et al. 2016) and Shangdan ocean at ca. 420 Ma (Dong and Santosh 2016), developing the Shangdan and Erlangping suture zones (Dong and Santosh 2016)

CONCLUSIONS

U-Pb zircon and apatite analyses, coupled with Perple_X metamorphic constraints, of four metamorphic and two granitoid samples bore the following conclusions.

1) The three samples deemed felsic gneisses were interpreted to be of igneous origin, with an inferred age peak of ca. 850-900 Ma pre-metamorphism. The protoliths are interpreted to be Neoproterozoic granitoids, represented in part by sample Q5S1 (890 Ma).
2) The sample Q8S1 was defined as a garnet biotite schist of metasedimentary protolith, with the age constrained to the late Mesoproterozoic and earliest Neoproterozoic and determined to be the estimated age of deposition of the Qinling Group in the North Qinling Terrane.
3) An age of metamorphism was estimated to between 497-463 Ma from the youngest low Th/U ratio zircons, from three of the four metamorphic samples. This was roughly corroborated to an amphibolite facies metamorphic event recorded regionally between ca. 500 – 450 Ma (Liao et al. 2016, Liu et al. 2016).
4) Restricted provenance analysis determined no obvious link to the North China or Tarim Craton, however, the North Qinling Terrane could be related tectonically to the components of the South China Craton (Cathaysia and Yangtze blocks) in the Mesoproterozoic. But also potentially being exotic to all the examined terranes.
5) The North Qinling Terrane appears to have evolved through multiple subduction and arc events. Subduction of the Shangdan ocean in the Neoproterozoic (Dong et al. 2014) led to arc magmatism intruding the terrane through the late

Mesoproterozoic Qinling Group metasedimentary sequence at ca. 850-900 Ma. Palaeozoic magmatism and metamorphism occurred ca. 400-500 Ma, forming voluminous granitoid plutons and potentially deforming older Neoproterozoic granitoids.

This study has been able to add support to the understanding of Neoproterozoic and Palaeozoic magmatism and subduction in the North Qinling Terrane, and better place the Qinling Group in the greater architecture of the Qinling Orogen Belt.

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APPENDIX A:

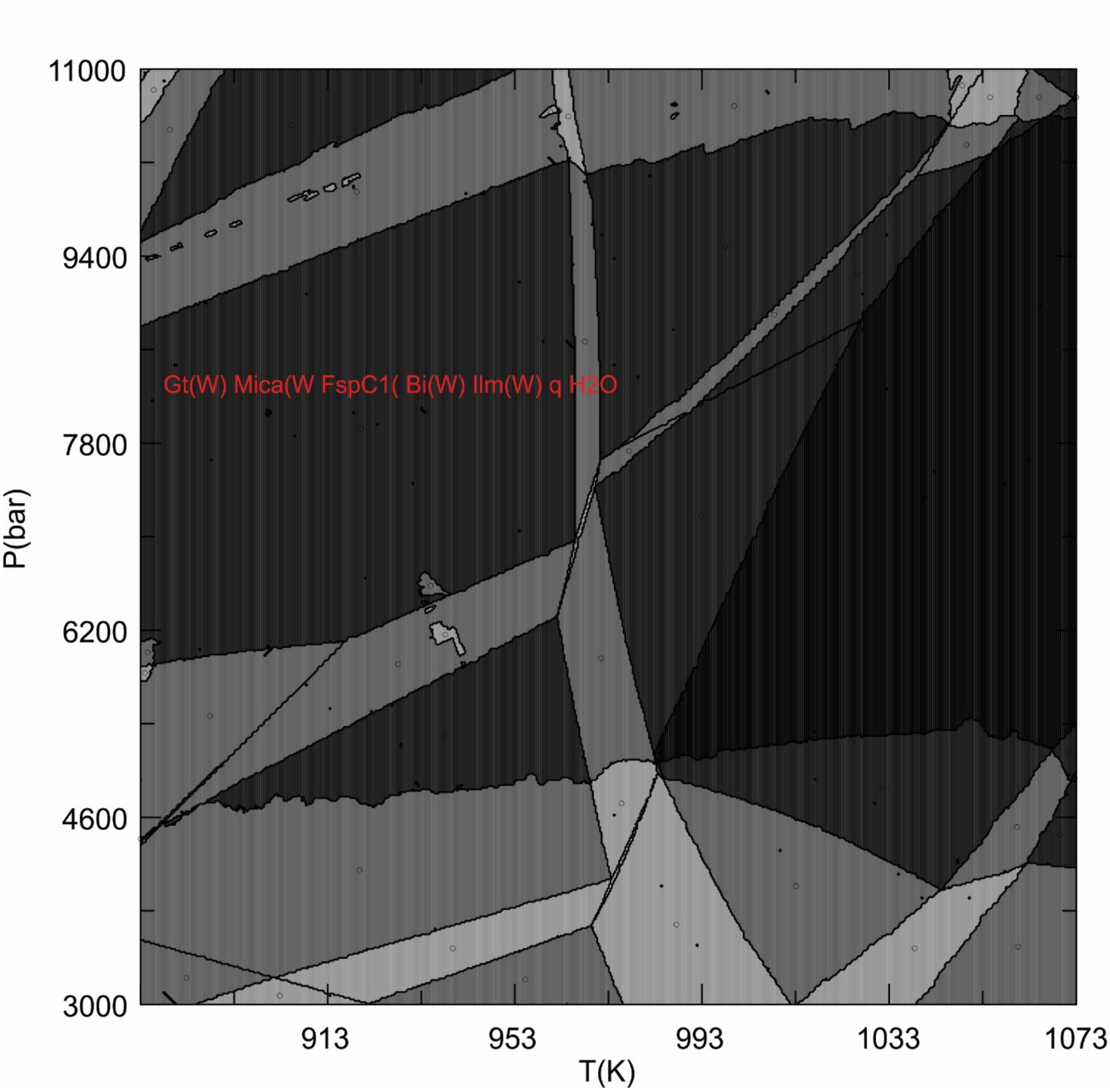
Geochemistry

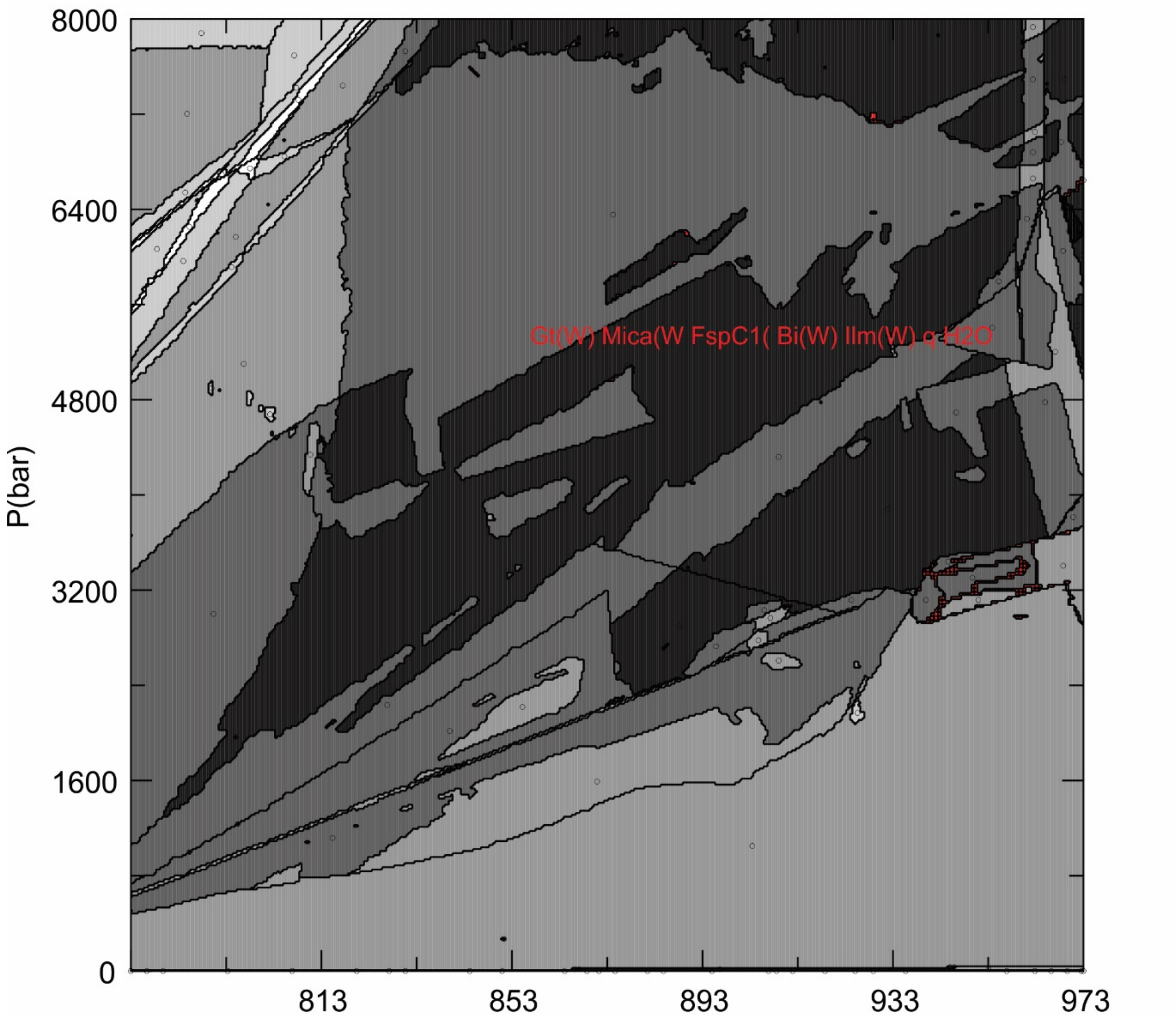
IDENT	Fe2O3	SiO2	Al2O3	CaO	MgO	MnO	P2O5	SO3	K2O	Na2O	TiO2	BaO	LOI
UNITS	%	%	%	%	%	%	%	%	%	%	%	%	%
SCHEME	XF100	XF100	XF100	XF100	XF100	XF100	XF100	XF100	XF100	XF100	XF100	XF100	TG002
DETECTION LIMIT	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.001	0.01	0.01	0.01	0.001	0.01
2652 Hand Sample	4.79	70.82	14.4	3.31	1.09	0.26	0.101	0.025	1.22	3.15	0.56	0.028	0.28
Q851 Hand Sample	7.46	68.68	12.3	2.15	2.23	0.27	0.089	0.185	2.54	2.05	0.83	0.04	0.88
Q352	5.2	68.75	14.5	2.41	1.31	0.11	0.117	0.028	2.17	3.25	0.49	0.088	1.43

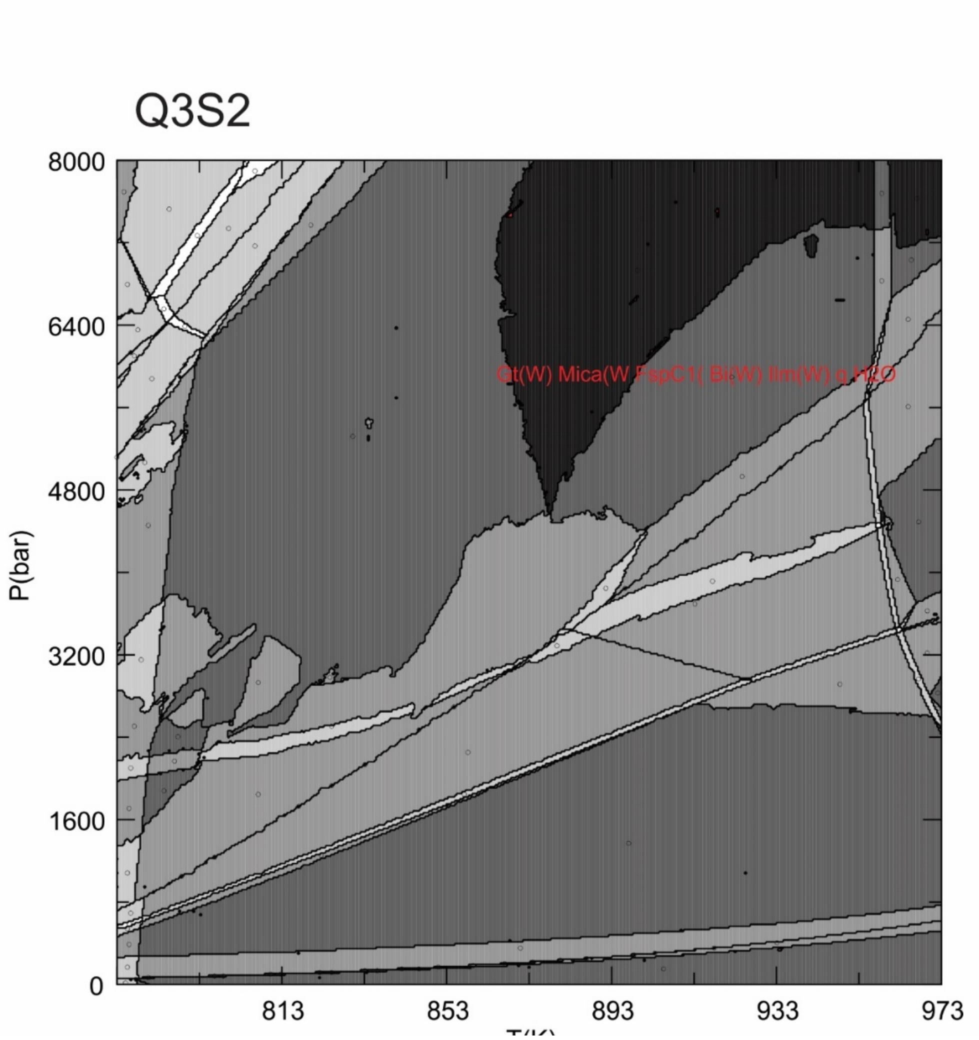
Table 1: whole rock major element results of representative samples Q8S1, Q3S2, Q26S2

APPENDIX B:

PERPLE_X OUTPUTS




8000
6400
4800
3200
1600
0
P(bar)
813
853
893
933
973
Gt(W) Mica(W FspC1(Bi(W) Ilm(W) q H2O


Q3S2
8000
6400
4800
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0
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813
853
893
933
973
Gt(W) Mica(W FspC1(Bi(W) Ilm(W) q H2O

APPENDIX C: U-PB ZIRCON DATA

Sample Name	Pb^{207}/U^{235}		Pb^{206}/U^{238}		Pb^{207}/Pb^{206}		Age (Ma) pb^{207}/U^{235}		Age (Ma) Pb^{206}/U^{238}		Age (Ma) Pb^{207}/Pb^{206}		Concordance 10%
Q5S1													
100.D	1.479	0.038	0.1437	0.0029	0.07	0.002	920	16	865	16	914	59	77
101.D	3.804	0.099	0.2574	0.0053	0.1008	0.0024	1593	21	1476	28	1639	45	110
102.D	1.693	0.057	0.1619	0.0034	0.0751	0.0026	1003	22	968	19	1043	74	58
103R.D	2.206	0.058	0.1537	0.0039	0.1022	0.0028	1183	18	920	22	1668	53	91
104.D	1.458	0.069	0.1511	0.0047	0.0678	0.0033	907	28	905	26	830	100	28
105.D	1.546	0.038	0.1556	0.0035	0.0695	0.0021	949	15	931	20	886	61	83
106.D	1.421	0.031	0.1287	0.0026	0.0784	0.0017	896	13	780	15	1144	44	93
107.D	1.441	0.041	0.1481	0.003	0.0684	0.002	907	17	890	17	864	60	148
108.D	1.503	0.036	0.1476	0.0026	0.0706	0.0017	932	15	887	15	948	49	66
109.D	1.504	0.033	0.1456	0.0028	0.0723	0.0016	933	14	876	16	973	45	72
10R.D	1.425	0.034	0.1476	0.003	0.0695	0.0018	899	14	887	17	909	53	14
11.D	1.688	0.036	0.1597	0.0028	0.0752	0.0014	1003	14	956	15	1071	37	156
110R.D	1.422	0.034	0.1446	0.0026	0.0684	0.0016	897	14	871	15	871	49	127
111.D	1.385	0.03	0.1331	0.0024	0.0716	0.0015	885	13	805	14	979	43	47
112.D	1.445	0.039	0.1436	0.0033	0.0701	0.0022	903	16	864	18	918	62	114
113.D	1.43	0.039	0.1431	0.0029	0.0695	0.002	900	16	861	16	888	61	75
114.D	1.413	0.04	0.141	0.0028	0.0674	0.002	889	17	850	16	840	64	81
115.D	1.592	0.046	0.1495	0.0032	0.0725	0.0021	965	18	897	18	981	58	17
116.D	1.424	0.052	0.142	0.0032	0.0672	0.0026	900	22	857	18	817	81	139
117R.D	1.42	0.049	0.1406	0.0032	0.0683	0.0024	889	21	847	18	816	76	77
118.D	1.489	0.068	0.134	0.0044	0.0757	0.0038	920	28	811	25	1030	100	86
119.D	1.363	0.072	0.1392	0.0045	0.0667	0.0038	872	32	841	26	770	120	58
12.D	1.41	0.048	0.1439	0.0031	0.0697	0.0024	887	20	866	17	912	72	108
120.D	1.566	0.063	0.1488	0.004	0.0708	0.0026	951	24	893	22	944	77	98

121.D	2.323	0.04	0.1377	0.0025	0.1121	0.0014	1219	12	832	14	1833	23	76
122.D	2.11	0.049	0.1238	0.0029	0.1147	0.0018	1151	16	752	17	1875	30	90
123.D	3.295	0.095	0.2387	0.0049	0.0928	0.0024	1477	22	1378	26	1479	49	90
124.D	1.292	0.03	0.1251	0.0024	0.0683	0.0017	842	13	761	14	867	54	27
125.D	3.526	0.073	0.2346	0.0052	0.1008	0.0024	1533	17	1357	27	1643	45	93
126.D	1.483	0.051	0.1157	0.0028	0.0861	0.0028	923	20	705	16	1329	62	72
127.D	2.081	0.046	0.17	0.0031	0.0811	0.0017	1141	15	1013	17	1229	41	117
128.D	2.865	0.088	0.2152	0.0058	0.0895	0.0029	1367	24	1260	31	1408	63	129
129.D	2.577	0.07	0.193	0.0044	0.0899	0.0025	1288	20	1136	23	1409	51	95
13.D	1.453	0.031	0.1506	0.0023	0.0689	0.0017	911	13	904	13	895	49	141
130.D	1.674	0.087	0.1323	0.0044	0.0787	0.0029	995	32	799	25	1157	71	90
131.D	3.02	0.068	0.2167	0.0039	0.0946	0.0022	1413	18	1263	20	1504	45	68
132.D	1.106	0.025	0.1108	0.0022	0.0674	0.0016	753	12	679	13	844	50	37
133R.D	1.39	0.03	0.139	0.0024	0.0682	0.0014	884	13	839	14	874	43	77
134.D	4.178	0.098	0.2817	0.0069	0.107	0.0029	1667	19	1600	35	1760	50	63
135R.D	1.488	0.029	0.1557	0.0024	0.0686	0.0012	924	12	933	13	877	38	61
136.D	1.411	0.041	0.1485	0.0032	0.0676	0.0023	890	17	891	18	849	66	94
137.D	3.518	0.064	0.2631	0.0045	0.0966	0.0017	1530	15	1504	23	1568	34	51
138.D	1.388	0.03	0.1441	0.0026	0.0678	0.0018	883	12	867	15	857	54	15
139.D	2.873	0.098	0.2265	0.0052	0.0886	0.0032	1371	25	1314	27	1403	70	20
14.D	1.359	0.041	0.1411	0.0028	0.0686	0.002	872	19	852	16	876	65	104
140.D	2.914	0.067	0.2235	0.0045	0.0912	0.0019	1384	17	1299	24	1445	39	105
141.D	1.4	0.053	0.1375	0.0035	0.0694	0.0029	892	22	829	20	936	85	84
142.D	2.583	0.06	0.1211	0.0021	0.1471	0.0029	1296	17	738	12	2312	34	44
143.D	2.448	0.055	0.1831	0.0036	0.0909	0.0019	1259	16	1083	19	1446	39	65
144.D	2.73	0.19	0.143	0.0038	0.1246	0.0071	1293	54	860	21	1990	110	86
145.D	1.617	0.043	0.1473	0.0025	0.0738	0.002	980	17	885	14	1046	53	111
146.D	1.442	0.031	0.1332	0.0025	0.0745	0.0014	907	13	807	14	1052	36	59
147.D	1.387	0.029	0.1311	0.0024	0.0707	0.0011	882	12	794	14	949	31	55

148.D	1.423	0.045	0.1429	0.0028	0.0678	0.0025	900	19	860	16	841	73	85
149.D	0.881	0.037	0.0934	0.0025	0.0626	0.0022	638	20	577	15	654	77	78
150.D	3.532	0.099	0.2375	0.0051	0.0969	0.0027	1529	22	1372	26	1576	51	90
151.D	2.564	0.081	0.198	0.0049	0.0859	0.0019	1292	23	1163	26	1333	42	14
152R.D	1.453	0.03	0.1405	0.0024	0.0694	0.0013	911	12	847	14	901	39	35
153.D	4.501	0.097	0.2255	0.0067	0.1328	0.0029	1725	18	1311	35	2123	39	106
154.D	3.311	0.096	0.2205	0.0047	0.1	0.0029	1485	22	1283	25	1616	53	144
155R.D	1.449	0.026	0.1374	0.0021	0.0684	0.0012	908	11	829	12	884	35	38
156.D	1.641	0.04	0.1091	0.0029	0.0999	0.0015	982	15	667	17	1625	28	104
157.D	3.042	0.055	0.2086	0.0041	0.0965	0.0017	1419	14	1220	22	1554	32	33
158.D	1.495	0.036	0.139	0.0026	0.0705	0.0016	928	15	838	15	937	49	62
159.D	1.482	0.037	0.1355	0.0028	0.0721	0.0019	922	15	819	16	984	56	91
15R.D	1.383	0.037	0.1454	0.0027	0.0687	0.002	886	17	874	15	865	58	95
160.D	1.554	0.044	0.1389	0.0025	0.0745	0.0017	951	18	839	14	1045	49	83
161.D	1.63	0.03	0.1327	0.0024	0.0821	0.0012	980	11	804	13	1243	30	93
162.D	1.354	0.035	0.1385	0.0026	0.0655	0.0018	871	15	837	14	806	59	96
163.D	1.472	0.041	0.1369	0.0026	0.0727	0.0021	914	17	827	15	1006	57	108
164.D	1.359	0.031	0.137	0.0023	0.0694	0.0016	873	13	827	13	900	49	96
165.D	1.436	0.034	0.1465	0.0026	0.0685	0.0016	906	13	882	15	875	48	117
166.D	1.523	0.048	0.15	0.0033	0.0716	0.0023	934	20	903	19	961	67	96
167.D	1.417	0.04	0.1467	0.003	0.0671	0.002	894	17	882	17	814	61	104
168.D	3.035	0.052	0.2243	0.0036	0.0925	0.0015	1418	13	1303	19	1478	31	89
169.D	1.4	0.039	0.135	0.0025	0.0705	0.0019	890	16	816	14	943	54	98
16R.D	1.413	0.033	0.1434	0.0024	0.0699	0.0017	894	14	864	13	899	52	87
17.D	2.242	0.066	0.1829	0.0038	0.0881	0.0014	1188	21	1082	21	1376	31	69
170.D	1.25	0.028	0.1234	0.002	0.0686	0.0015	821	12	750	12	872	44	108
171.D	2.78	0.14	0.2108	0.0075	0.09	0.0047	1347	37	1233	40	1373	98	104
172.D	1.36	0.044	0.1224	0.0029	0.0752	0.0028	871	19	748	16	1032	80	105
173.D	2.52	0.19	0.1971	0.008	0.0882	0.0074	1283	56	1154	43	1320	160	114

174.D	1.403	0.037	0.1339	0.0025	0.0678	0.0019	890	15	809	14	836	59	90
175.D	1.363	0.036	0.1322	0.0023	0.0669	0.0017	877	16	800	13	849	54	109
176.D	1.348	0.044	0.1307	0.0029	0.0675	0.0022	868	19	793	16	841	69	103
177.D	1.745	0.063	0.1423	0.003	0.0811	0.0024	1022	23	857	17	1232	57	105
178.D	1.451	0.047	0.131	0.0026	0.0711	0.0022	909	19	793	15	959	64	98
179.D	3.906	0.093	0.2525	0.0046	0.102	0.0022	1615	20	1450	24	1652	39	120
180.D	3.271	0.073	0.2202	0.004	0.0952	0.0019	1478	17	1282	21	1522	38	108
181.D	3.4	0.12	0.2255	0.0057	0.0987	0.0038	1508	28	1313	30	1569	72	109
182.D	2.24	0.04	0.1378	0.0026	0.1043	0.002	1192	12	832	15	1700	35	105
183.D	2.771	0.072	0.1435	0.0026	0.1239	0.0034	1343	19	864	14	1992	48	99
184.D	1.606	0.055	0.1421	0.0037	0.0724	0.0023	976	21	855	21	993	69	133
185.D	1.5	0.03	0.1309	0.0025	0.0743	0.0015	931	12	792	14	1046	41	104
186.D	1.48	0.031	0.1249	0.0038	0.0777	0.0028	923	12	760	22	1120	72	108
187.D	2.06	0.05	0.1661	0.0032	0.0808	0.0018	1136	16	990	18	1209	45	140
188.D	1.318	0.022	0.1263	0.002	0.0678	0.0011	852.9	9.7	766	11	862	35	103
189.D	1.654	0.045	0.148	0.0031	0.0742	0.0019	990	17	892	17	1043	51	129
18R.D	1.395	0.027	0.1463	0.0026	0.0683	0.0013	889	11	880	15	877	38	111
19.D	1.413	0.031	0.1477	0.0024	0.0698	0.0014	894	13	888	14	915	42	89
190.D	4.01	0.081	0.2575	0.0047	0.1025	0.0021	1633	16	1476	24	1682	36	101
191.D	2.88	0.12	0.2092	0.0069	0.0916	0.0042	1378	30	1227	36	1440	88	88
192R.D	1.387	0.029	0.134	0.0022	0.0697	0.0016	882	13	810	13	926	45	111
193.D	1.327	0.047	0.1354	0.0035	0.0674	0.0026	857	21	817	20	831	83	95
194.D	1.298	0.027	0.1344	0.0027	0.0673	0.0011	846	12	814	16	843	36	95
1R.D	1.483	0.025	0.157	0.0022	0.07	0.0011	922	10	941	12	927	31	97
20R.D	1.438	0.037	0.1456	0.0028	0.0724	0.0022	904	15	876	16	977	61	111
21.D	3.046	0.072	0.2499	0.0042	0.0919	0.0021	1418	18	1437	22	1463	43	106
22R.D	1.514	0.047	0.1642	0.0033	0.0711	0.0023	934	19	979	18	916	68	143
23R.D	1.416	0.031	0.1546	0.0025	0.0683	0.0016	896	13	926	14	895	49	121
24.D	1.465	0.034	0.1594	0.0026	0.0694	0.0018	914	14	953	14	913	53	116

25.D	1.97	0.1	0.1554	0.0034	0.0965	0.0048	1093	34	932	19	1503	93	93
26R.D	1.418	0.032	0.1558	0.0027	0.0689	0.0013	893	13	933	15	899	41	92
27.D	2.455	0.088	0.2201	0.0058	0.0855	0.0025	1267	27	1280	31	1318	58	106
28R.D	1.423	0.036	0.1557	0.003	0.0694	0.0018	898	15	932	16	904	52	116
29.D	3.411	0.074	0.2529	0.0041	0.1009	0.0019	1507	17	1452	21	1634	34	Concordance 10%
2R.D	1.483	0.019	0.1493	0.0018	0.0735	0.00092	924.6	8.1	897	10	1027	26	77
3.D	1.859	0.039	0.1694	0.003	0.0802	0.0015	1065	14	1008	17	1196	38	110
30R.D	2.54	0.14	0.1459	0.0024	0.1331	0.0072	1271	40	880	13	2055	98	58
31.D	1.425	0.032	0.1556	0.0025	0.0687	0.0014	900	13	933	14	878	44	91
32R.D	1.377	0.039	0.1546	0.003	0.0681	0.0022	879	17	926	17	854	64	28
33.D	3.122	0.076	0.2486	0.0052	0.0953	0.0018	1434	19	1429	27	1534	35	83
34.D	2.818	0.075	0.2411	0.0052	0.0887	0.0028	1364	20	1393	27	1383	59	93
35.D	2.819	0.072	0.2214	0.0041	0.0964	0.002	1357	19	1288	22	1553	40	148
36.D	1.4	0.023	0.1538	0.0023	0.0682	0.0011	888	9.6	922	13	876	32	66
37R.D	1.463	0.036	0.155	0.0025	0.0706	0.0019	911	15	928	14	948	54	72
38.D	2.973	0.062	0.2487	0.0049	0.0887	0.0021	1398	16	1432	25	1399	46	14
39R.D	1.464	0.035	0.1566	0.0027	0.0696	0.0016	913	14	937	15	899	48	156
40.D	5.94	0.16	0.3319	0.0078	0.1354	0.0032	1980	25	1847	37	2160	40	127
41.D	2.708	0.08	0.2241	0.0042	0.0884	0.0026	1329	22	1304	22	1378	57	47
42R.D	1.542	0.035	0.1587	0.0029	0.0709	0.0017	949	14	950	16	944	51	114
43.D	1.294	0.034	0.1378	0.0026	0.0701	0.0019	844	16	832	15	932	56	75
44.D	2.178	0.06	0.1945	0.0042	0.0828	0.0025	1171	19	1148	22	1267	57	81
45R.D	1.452	0.037	0.159	0.0028	0.0683	0.0017	910	15	951	16	854	52	17
46.D	1.432	0.035	0.1527	0.0027	0.0697	0.002	899	14	917	15	905	60	139
47R.D	1.42	0.036	0.1588	0.0031	0.0686	0.0019	902	16	949	17	878	55	77
48.D	1.416	0.03	0.1546	0.0027	0.0683	0.0015	894	13	928	15	877	47	86
49.D	1.839	0.07	0.1777	0.0045	0.0761	0.0021	1046	24	1055	24	1070	55	58
4R.D	1.429	0.023	0.1494	0.0022	0.0689	0.0012	900.2	9.6	897	12	896	35	108

5.D	1.382	0.029	0.1485	0.0022	0.0673	0.0017	881	12	892	13	838	53	98
50.D	3.107	0.066	0.2548	0.0045	0.0923	0.0021	1437	17	1462	23	1473	41	76
51.D	1.419	0.039	0.1517	0.0028	0.0701	0.0019	897	16	911	16	927	56	90
52R.D	1.47	0.041	0.1617	0.003	0.0687	0.0017	920	17	965	16	885	51	90
53.D	1.35	0.035	0.1488	0.0034	0.0701	0.0017	867	16	893	19	924	51	27
54.D	1.341	0.051	0.1479	0.004	0.0696	0.0027	857	22	890	22	900	81	93
55.D	3.998	0.092	0.2905	0.0055	0.1059	0.0023	1634	18	1649	27	1725	41	72
56.D	1.42	0.033	0.1568	0.0026	0.0694	0.0017	896	14	941	14	906	50	117
57R.D	1.467	0.036	0.1624	0.0031	0.068	0.0017	917	15	969	17	876	52	129
58.D	1.382	0.027	0.1536	0.0022	0.0688	0.0012	882	12	922	12	889	37	95
59.D	2.597	0.045	0.2282	0.0037	0.0869	0.0013	1298	13	1324	19	1355	31	141
60R.D	1.369	0.031	0.1606	0.0029	0.0656	0.0017	873	13	959	16	777	54	90
61.D	1.421	0.037	0.1582	0.0027	0.0688	0.0017	896	16	948	15	894	51	68
62.D	1.401	0.029	0.1561	0.0026	0.0694	0.0013	890	12	934	14	900	38	37
63.D	3.841	0.073	0.2923	0.0048	0.1015	0.0015	1599	16	1651	24	1653	28	77
64.D	1.369	0.03	0.154	0.0029	0.0682	0.0015	873	13	923	16	883	43	63
65R.D	1.372	0.035	0.1559	0.003	0.0684	0.0021	874	15	935	17	845	62	61
66.D	1.625	0.037	0.1446	0.0026	0.0861	0.0021	983	15	870	14	1331	47	94
67.D	1.447	0.041	0.1558	0.0031	0.0708	0.0022	909	17	933	17	940	65	51
68.D	2.216	0.041	0.205	0.0032	0.081	0.0016	1186	13	1202	17	1210	40	15
69.D	1.339	0.032	0.1456	0.0029	0.0695	0.0017	863	14	876	17	915	49	20
6R.D	1.432	0.033	0.1487	0.0027	0.0699	0.0019	900	14	893	15	920	55	104
70.D	1.505	0.042	0.1505	0.0029	0.0759	0.0021	932	17	903	16	1084	58	105
71R.D	1.455	0.063	0.1493	0.0038	0.0715	0.0032	911	27	896	21	942	96	84
72.D	8.68	0.2	0.3452	0.007	0.173	0.0033	2304	21	1911	33	2592	32	44
73R.D	1.574	0.04	0.1528	0.0029	0.0703	0.0018	956	16	916	16	913	53	65
74R.D	1.513	0.039	0.155	0.003	0.0693	0.002	934	16	928	17	905	56	86
75.D	1.467	0.029	0.1459	0.0026	0.07	0.0014	918	12	877	15	933	42	111
76R.D	1.507	0.04	0.1526	0.0028	0.0686	0.002	936	16	915	16	888	61	59

77.D	2.199	0.045	0.1492	0.0029	0.0994	0.0016	1179	14	896	16	1618	30	55
78R.D	1.52	0.039	0.1478	0.0033	0.0696	0.0018	937	16	888	19	900	56	85
79R.D	1.475	0.03	0.1412	0.0024	0.0699	0.0015	918	12	852	14	929	43	78
7R.D	2.54	0.095	0.1503	0.0025	0.1228	0.0048	1272	27	902	14	1967	72	90
8.D	1.103	0.024	0.1046	0.0017	0.0692	0.0017	754	12	641.2	9.7	897	49	14
80.D	3.735	0.079	0.2393	0.0039	0.1045	0.0016	1583	17	1382	20	1698	29	35
81R.D	1.535	0.034	0.1488	0.0026	0.0687	0.0015	942	14	893	15	888	47	106
82.D	1.367	0.03	0.1333	0.0025	0.0692	0.0016	875	13	806	14	882	48	144
83.D	1.702	0.042	0.1478	0.0029	0.0772	0.0014	1006	16	888	16	1121	36	38
84.D	1.464	0.034	0.1392	0.0028	0.0698	0.0017	916	14	841	16	916	49	104
85.D	1.612	0.051	0.1535	0.0038	0.0709	0.0024	974	19	919	21	925	71	33
86.D	1.491	0.037	0.1424	0.0028	0.069	0.0015	924	15	859	16	874	44	62
87.D	2.817	0.084	0.2117	0.0046	0.0856	0.0029	1355	23	1236	25	1329	67	91
88.D	3.78	0.13	0.2531	0.0066	0.0983	0.0038	1594	26	1451	34	1557	75	95
89.D	1.361	0.034	0.1314	0.0026	0.068	0.0016	870	15	795	15	860	49	83
90.D	1.463	0.039	0.1404	0.0027	0.0678	0.0017	915	16	848	15	840	52	93
91.D	1.425	0.035	0.1323	0.0029	0.0687	0.0016	896	15	800	16	896	48	96
92.D	1.496	0.042	0.1327	0.0025	0.0745	0.002	934	17	803	14	1050	56	108
93.D	2.045	0.073	0.1626	0.0041	0.0813	0.0018	1128	25	970	23	1231	44	96
94.D	1.962	0.079	0.1623	0.0038	0.078	0.0019	1097	26	970	21	1152	48	117
95.D	3.464	0.082	0.2286	0.0046	0.0979	0.0019	1522	19	1326	24	1585	36	96
96.D	1.416	0.038	0.1356	0.0025	0.0678	0.0017	894	16	819	14	838	52	104
97.D	1.448	0.051	0.1399	0.003	0.0689	0.0027	909	21	844	17	867	81	89
98.D	2.051	0.05	0.1724	0.0032	0.079	0.0017	1129	17	1024	18	1178	42	98
99.D	1.372	0.05	0.138	0.0038	0.0667	0.0028	879	22	832	22	792	90	87
9R.D	1.546	0.04	0.1531	0.0026	0.072	0.0018	947	15	917	14	985	49	69
PLES01.D	0.361	0.011	0.0537	0.001	0.0525	0.0018	312.9	8.3	336.9	6.2	283	68	108
PLES02.D	0.367	0.012	0.0546	0.0011	0.0524	0.0019	317	9	343.3	6.4	275	71	104
PLES03.D	0.372	0.013	0.0558	0.0012	0.0521	0.0018	319.7	9.4	349.7	7.3	266	71	105

PLES04.D	0.384	0.013	0.05142	0.00094	0.0557	0.0019	330.6	9.2	323.1	5.8	422	70	114
PLES05.D	0.402	0.017	0.0544	0.0012	0.055	0.0024	341	12	342.1	7.4	371	90	90
PLES06.D	0.38	0.015	0.0536	0.0012	0.0527	0.0022	325	11	336.4	7.1	305	83	109
PLES07.D	0.383	0.013	0.0535	0.001	0.053	0.0018	328.8	9.3	336	6.3	322	70	103
PLES08.D	0.39	0.013	0.05408	0.00092	0.0538	0.0018	332.5	9.3	340	5.6	350	67	105
PLES09.D	0.395	0.012	0.0532	0.0011	0.0541	0.0018	336.5	8.9	333.7	7	337	69	98
PLES10.D	0.394	0.014	0.0548	0.0011	0.0526	0.0019	336	10	343.5	6.9	294	75	120
PLES11.D	0.399	0.015	0.0533	0.0012	0.0558	0.0024	341	11	334.5	7.6	417	84	108
PLES12.D	0.387	0.014	0.0544	0.0012	0.0536	0.0022	330	10	342	7.3	320	81	109
PLES13.D	0.377	0.013	0.0526	0.0011	0.0507	0.0018	326	9.9	330.2	6.8	224	70	105
PLES14.D	0.403	0.013	0.0537	0.001	0.0532	0.0018	342.1	9.2	337.3	6.3	309	68	99
PLES15.D	0.413	0.015	0.0543	0.0011	0.054	0.0019	351	10	341.5	6.5	341	74	133
PLES17.D	0.393	0.013	0.055	0.0012	0.0526	0.0018	336.9	9.5	345.1	7.6	294	70	104
PLES18.D	0.407	0.015	0.0543	0.0012	0.0544	0.002	344	10	341.4	7.1	376	77	108
PLES19.D	0.397	0.015	0.0536	0.0012	0.0536	0.0022	340	10	336.2	7.3	338	84	140
PLES20.D	0.406	0.016	0.0552	0.0013	0.0531	0.0022	344	11	346.1	7.9	332	82	103
PLES21.D	0.371	0.014	0.0543	0.0012	0.0511	0.0021	318	11	340.7	7.1	246	79	129
PLES22.D	0.401	0.014	0.0542	0.0011	0.055	0.002	341	10	340.6	6.4	404	71	111
PLES23.D	0.381	0.015	0.0522	0.0011	0.054	0.0022	327	11	327.9	6.6	347	83	89
PLES24.D	0.373	0.016	0.0518	0.0011	0.0526	0.0023	320	12	325.5	6.7	267	87	101
PLES25.D	0.387	0.014	0.0528	0.001	0.0547	0.002	330	10	331.9	6.1	360	75	88
PLES26.D	0.387	0.014	0.0545	0.0012	0.0514	0.0018	330.4	9.8	342	7.2	254	71	111
PLES27.D	0.387	0.014	0.0533	0.0012	0.0538	0.0021	331.4	9.8	334.8	7.3	337	79	95
PLES28.D	0.401	0.015	0.0533	0.0011	0.0533	0.0019	340	11	334.4	7	320	75	95
PLS16.D	0.413	0.014	0.0527	0.0011	0.0547	0.0019	350.4	9.8	331.1	6.5	385	75	97
tdGJ06.D	0.761	0.028	0.0986	0.0018	0.0577	0.0024	573	16	606	10	495	83	111
tdGJ07.D	0.759	0.034	0.0993	0.0022	0.0602	0.0028	579	19	610	13	558	96	106
tdGJ08.D	0.77	0.031	0.099	0.0022	0.0603	0.0025	581	17	608	13	571	86	143
tdGJ09.D	0.787	0.031	0.1	0.0024	0.0602	0.0027	588	17	615	14	575	97	121

tdGJ10.D	0.768	0.03	0.0989	0.002	0.0598	0.0026	580	17	609	12	564	89	116
tdGJ11.D	0.774	0.036	0.0962	0.0022	0.0601	0.0028	578	20	594	13	564	97	93
tdGJ12.D	0.818	0.035	0.099	0.0024	0.061	0.0027	603	19	608	14	599	96	92
tdGJ14.D	0.792	0.037	0.0978	0.0026	0.0606	0.0031	588	21	601	15	603	99	106
tdGJ15.D	0.779	0.035	0.0982	0.0022	0.0588	0.0028	582	20	605	13	554	94	116
tdGJ16.D	0.767	0.036	0.0977	0.0024	0.0578	0.0029	576	20	600	14	490	100	Concordance 10%
tdGJ17.D	0.753	0.036	0.0962	0.0023	0.0591	0.0029	564	20	593	13	520	100	77
tdGJ18.D	0.812	0.037	0.0983	0.002	0.0632	0.003	593	20	604	12	662	98	110
tdGJ19.D	0.807	0.037	0.0979	0.0023	0.0611	0.0028	599	21	603	13	604	97	58
tdGJ20.D	0.786	0.036	0.0971	0.0023	0.0605	0.003	583	20	598	13	535	98	91
tdGJ21.D	0.786	0.033	0.0976	0.0025	0.0596	0.0027	584	18	601	15	545	92	28
tdGJ22.D	0.828	0.036	0.097	0.0026	0.0621	0.0029	612	20	599	15	633	97	83
tdGJ23.D	0.784	0.042	0.098	0.0021	0.0574	0.0028	584	23	602	12	490	100	93
tdGJ24.D	0.811	0.032	0.099	0.0026	0.0598	0.0025	602	18	608	15	560	89	148
tdGJ25.D	0.809	0.039	0.0969	0.0025	0.0615	0.003	600	21	595	15	636	99	66
tdGJ26.D	0.754	0.036	0.0966	0.0021	0.0574	0.0029	567	20	594	12	450	100	72
tdGJ27.D	0.773	0.033	0.0994	0.0027	0.0582	0.0026	583	19	610	16	497	92	14
tdGJ29.D	0.762	0.056	0.0964	0.0039	0.0565	0.0047	573	33	593	23	440	170	156
tdGJ29.D	0.768	0.037	0.0978	0.0024	0.0567	0.0028	578	21	601	14	457	98	127
tdGJ30.D	0.791	0.033	0.0992	0.002	0.059	0.0029	591	18	610	12	540	100	47
tdGJ31.D	0.83	0.034	0.0976	0.0024	0.0612	0.0028	613	18	599	14	622	92	114
tdGJ32.D	0.869	0.038	0.0974	0.0026	0.0638	0.003	633	20	600	15	719	94	75
tdGJ33.D	0.843	0.034	0.0982	0.0024	0.0608	0.0025	618	18	603	14	588	87	81
tdGJ34.D	0.837	0.038	0.0977	0.0022	0.0607	0.0028	611	21	600	13	582	94	17
tdGJ35.D	0.816	0.036	0.0967	0.0024	0.059	0.0026	604	20	596	14	530	90	139
tdGJ36.D	0.842	0.037	0.0993	0.0023	0.0598	0.0028	614	20	610	13	548	96	77
tdGJ37.D	0.868	0.042	0.1005	0.0024	0.0608	0.0033	629	22	617	14	560	110	86
tdGJ40.D	0.827	0.035	0.0974	0.0022	0.0619	0.0029	609	19	600	12	607	94	58

tdGJ42.D	0.856	0.038	0.0971	0.0026	0.0634	0.0031	626	20	597	15	670	100	108
tdGJ43.D	0.827	0.033	0.0961	0.0023	0.0621	0.0029	609	18	591	13	616	96	98
tdGJ44.D	0.822	0.036	0.0971	0.0024	0.0614	0.003	611	20	597	14	570	100	76
tdGJ46.D	0.806	0.037	0.0967	0.0023	0.0591	0.0028	599	20	595	13	529	97	90
tdGJ47.D	0.824	0.042	0.0966	0.0025	0.061	0.003	603	23	594	15	620	100	90
tdGJ49.D	0.791	0.04	0.0975	0.0027	0.0594	0.0031	586	22	599	16	530	100	27
tdGJ50.D	0.798	0.035	0.0987	0.0023	0.0598	0.0027	596	19	606	14	574	90	93
tdGJ51.D	0.795	0.034	0.0972	0.0024	0.06	0.0027	590	19	597	14	568	93	72
tdGJ52.D	0.787	0.04	0.0981	0.0026	0.0565	0.0025	588	22	603	15	458	93	117
tdGJ53.D	0.911	0.044	0.1005	0.0024	0.0621	0.003	647	24	617	14	640	110	129
tdGJ54.D	0.798	0.037	0.0974	0.0024	0.0598	0.003	589	20	600	14	508	99	95
tdGJ56.D	0.76	0.04	0.0958	0.0023	0.0586	0.0031	569	23	589	14	510	100	141
tdGJ57.D	0.816	0.036	0.0974	0.0026	0.0615	0.0029	601	20	599	15	610	100	90
tdGJ58.D	0.832	0.039	0.098	0.0025	0.0619	0.0029	612	22	602	14	610	100	68
tdGJ59.D	0.827	0.04	0.0984	0.0024	0.0596	0.0029	605	22	605	14	518	96	37
tdGJ60.D	0.838	0.042	0.0983	0.0021	0.0605	0.003	615	22	604	12	610	100	77
tdGJ61.D	0.811	0.036	0.0971	0.0025	0.0598	0.0027	605	19	598	14	554	92	63
tdGJ62.D	0.803	0.033	0.0968	0.0021	0.0598	0.0025	599	18	595	12	547	88	61
tdGJ64.D	0.778	0.032	0.0962	0.0023	0.0612	0.0024	580	18	593	14	601	82	94

Sample Name	Pb^{207}/U^{235}		Pb^{206}/U^{238}		Pb^{207}/Pb^{206}		Age (Ma) pb^{207}/U^{235}		Age (Ma) Pb^{206}/U^{238}		Age (Ma) Pb^{207}/Pb^{206}		Concordanc 10%
Q21S3													
Q21C-063.D	0.497	0.029	0.0615	0.0017	0.0584	0.0039	405	20	385	11	500	130	77
Q21C-001.D	0.542	0.039	0.0702	0.0026	0.0582	0.0051	437	27	438	16	400	160	110
Q21C-002.D	0.654	0.024	0.0707	0.0011	0.0654	0.0022	508	15	440.5	6.8	759	72	58
Q21C-003.D	0.551	0.015	0.069	0.0013	0.0567	0.0016	444.5	9.5	430.7	7.6	473	60	91
Q21C-004.D	0.836	0.029	0.06391	0.00093	0.0915	0.003	613	16	399.3	5.7	1452	61	28
Q21C-005.D	0.5275	0.0085	0.06608	0.00089	0.05726	0.00092	430.8	5.6	412.4	5.4	494	35	83
Q21C-006.D	0.514	0.027	0.0636	0.0017	0.0585	0.0036	415	18	398	10	430	110	93
Q21C-007.D	0.481	0.016	0.0655	0.0013	0.0525	0.0019	398	11	409	7.7	277	73	148
Q21C-008.D	0.529	0.011	0.0636	0.0011	0.0603	0.0015	430.4	7.5	397.6	6.5	603	54	66
Q21C-009.D	0.554	0.038	0.0648	0.0019	0.0604	0.0043	447	25	404	12	560	150	72

Q21C-010.D	1.617	0.043	0.0611	0.00092	0.1889	0.0034	972	16	382.2	5.6	2727	29	14
Q21C-011.D	0.461	0.027	0.0625	0.0017	0.0524	0.0032	382	18	390	10	250	120	156
Q21C-012.D	0.465	0.013	0.0627	0.0011	0.0529	0.0014	386.9	8.6	392.1	6.7	309	59	127
Q21C-013.D	0.568	0.039	0.0584	0.002	0.0703	0.0053	456	25	366	12	780	150	47
Q21C-014.D	0.471	0.047	0.0622	0.0024	0.0544	0.0057	387	33	388	15	340	190	114
Q21C-015.D	0.517	0.027	0.0628	0.0015	0.0586	0.0031	420	18	392.4	9.2	520	110	75
Q21C-016.D	0.505	0.019	0.0631	0.0013	0.0576	0.0023	417	13	394.2	7.7	485	82	81
Q21C-017.D	1.8	0.13	0.071	0.0032	0.18	0.013	1030	46	441	19	2620	130	17
Q21C-018.D	0.439	0.036	0.0624	0.0022	0.0538	0.0047	372	26	390	13	280	160	139
Q21C-019.D	0.519	0.043	0.0613	0.0021	0.0616	0.0052	410	27	383	13	500	150	77
Q21C-020.D	0.503	0.02	0.0642	0.0015	0.0561	0.0022	412	13	400.7	9.3	464	83	86
Q21C-021.D	0.493	0.011	0.059	0.0012	0.0615	0.0016	405.6	7.7	369.6	7	632	55	58
Q21C-022.D	0.514	0.011	0.06791	0.00099	0.0547	0.0012	419.9	7.6	423.4	6	393	50	108

Q21C-023.D	0.504	0.029	0.0663	0.002	0.0558	0.0036	409	20	413	12	420	130	98
Q21C-024.D	0.51	0.03	0.063	0.0017	0.0605	0.0036	411	20	394	10	520	120	76
Q21C-025.D	0.494	0.021	0.0638	0.0015	0.0561	0.0025	404	14	398.3	8.8	442	93	90
Q21C-026.D	0.502	0.018	0.0642	0.0014	0.0567	0.0021	413	12	400.9	8.3	445	78	90
Q21C-027.D	0.89	0.02	0.0666	0.0012	0.0963	0.0022	644	11	415.6	7.4	1548	44	27
Q21C-028.D	0.488	0.011	0.0646	0.001	0.0558	0.0012	402.2	7.6	403.1	6.2	435	48	93
Q21C-029.D	0.522	0.026	0.0646	0.0018	0.0582	0.0032	427	17	403	11	560	110	72
Q21C-030.D	0.459	0.032	0.0639	0.0019	0.055	0.0043	390	23	399	11	340	140	117
Q21C-031.D	0.471	0.01	0.0649	0.0011	0.0528	0.0012	391.6	7	405.3	6.7	315	51	129
Q21C-032.D	0.474	0.014	0.0626	0.0012	0.0553	0.0018	392.3	9.9	391.2	7.4	413	68	95
Q21C-033.D	0.448	0.014	0.0629	0.0011	0.0522	0.0018	375	10	393.9	6.5	279	72	141
Q21C-034.D	0.468	0.014	0.06174	0.00094	0.0559	0.0016	389.6	9.7	386.1	5.7	427	61	90
Q21C-035.D	0.476	0.043	0.0583	0.0023	0.0602	0.0054	389	30	365	14	540	190	68

Q21C-036.D	0.6	0.021	0.0598	0.001	0.0739	0.003	474	13	374.3	6.3	1015	79	37
Q21C-037.D	0.473	0.015	0.0609	0.0012	0.0575	0.0016	392	10	381	7.5	498	63	77
Q21C-038.D	0.535	0.036	0.0636	0.0025	0.0611	0.005	430	24	397	15	630	160	63
Q21C-039.D	0.486	0.012	0.0589	0.001	0.0608	0.0015	401.5	8.1	370	6.2	610	55	61
Q21C-040.D	0.46	0.03	0.0616	0.0017	0.0564	0.0039	382	21	385	10	410	130	94
Q21C-041.D	0.594	0.026	0.0663	0.0013	0.0658	0.0029	473	17	413.9	7.8	819	95	51
Q21C-042.D	5.91	0.35	0.1025	0.0076	0.49	0.052	1968	51	628	45	4220	240	15
Q21C-043.D	1.285	0.063	0.0692	0.0012	0.1347	0.0054	827	28	431.1	7.5	2141	69	20
Q21C-044.D	0.476	0.027	0.0635	0.0015	0.0547	0.0031	391	19	396.6	9.2	380	120	104
Q21C-045.D	0.438	0.021	0.0596	0.0013	0.0543	0.0027	370	14	372.9	8.2	355	96	105
Q21C-046.D	0.473	0.0064	0.06156	0.00079	0.05627	0.00067	393.3	4.4	385.1	4.8	459	27	84
Q21C-047.D	0.601	0.02	0.064	0.0011	0.0693	0.0023	480	12	400	6.6	903	69	44
Q21C-048.D	0.477	0.04	0.0578	0.0022	0.0615	0.0053	398	26	363	14	560	160	65

Q21C-049.D	0.462	0.03	0.0607	0.0019	0.0572	0.0036	390	21	380	12	440	120	86
Q21C-050.D	0.459	0.028	0.064	0.0022	0.0547	0.0036	387	20	399	13	360	130	111
Q21C-051.D	0.543	0.037	0.0618	0.002	0.0628	0.005	434	25	386	12	650	150	59
Q21C-052.D	0.491	0.041	0.0571	0.0021	0.0671	0.0064	405	26	358	13	650	170	55
Q21C-053.D	0.473	0.023	0.0607	0.0016	0.0575	0.0032	390	16	380.7	9.4	450	110	85
Q21C-054.D	0.486	0.034	0.0606	0.0021	0.0593	0.0047	402	23	381	13	490	150	78
Q21C-055.D	0.468	0.03	0.0605	0.0016	0.0579	0.004	386	21	379.3	9.8	420	130	90
Q21C-056.D	7.78	0.22	0.0992	0.0019	0.571	0.012	2199	27	609	11	4425	34	14
Q21C-057.D	0.673	0.04	0.0632	0.0027	0.0817	0.0064	524	24	396	16	1120	140	35
Q21C-058.D	0.467	0.011	0.06281	0.00092	0.0543	0.0012	388.9	7.7	392.6	5.6	371	48	106
Q21C-059.D	0.444	0.029	0.0622	0.0018	0.052	0.0035	369	21	389	11	270	130	144
Q21C-060.D	0.546	0.039	0.0556	0.002	0.0739	0.006	435	26	349	12	920	160	38
Q21C-061.D	0.462	0.027	0.0618	0.0017	0.0554	0.0035	385	19	386	10	370	120	104

Q21C-062.D	0.66	0.015	0.06099	0.00082	0.0782	0.0016	514.2	9.3	381.6	5	1159	42	33
PLES07.D	0.456	0.022	0.0546	0.0013	0.06	0.0028	377	15	342.6	7.9	549	95	62
PLES06.D	0.421	0.021	0.0553	0.0014	0.0558	0.003	355	14	347.3	8.4	380	99	91
PLES05.D	0.404	0.017	0.0536	0.0011	0.0547	0.0024	342	12	336.4	6.6	355	87	95
PLES03.D	0.416	0.016	0.053	0.0011	0.0554	0.0021	351	11	332.6	6.5	399	80	83
PLES02.D	0.411	0.016	0.054	0.0012	0.0541	0.0024	349	11	338.7	7.5	363	90	93
PLES016.D	0.421	0.021	0.0547	0.0014	0.0553	0.0026	350	14	343.2	8.4	356	93	96
PLES015.D	0.401	0.018	0.0532	0.0012	0.0538	0.0024	338	13	334.3	7.2	310	89	108
PLES014.D	0.408	0.017	0.0547	0.0013	0.0537	0.0025	347	12	343.3	8	359	93	96
PLES013.D	0.384	0.016	0.0534	0.0011	0.0528	0.0023	327	11	336	6.9	287	89	117
PLES012.D	0.376	0.015	0.0514	0.001	0.0541	0.0022	321	11	322.9	6.3	338	80	96
PLES011.D	0.384	0.016	0.0533	0.0011	0.0543	0.0023	328	12	335.5	6.7	324	82	104
PLES010.D	0.384	0.015	0.0519	0.0012	0.0553	0.0025	328	11	325.9	7.4	368	90	89
PLES01.D	0.403	0.014	0.0529	0.0011	0.0542	0.0021	344	10	332	6.8	338	79	98
PLES009.D	0.385	0.017	0.0528	0.0013	0.0548	0.0026	328	12	331.9	8	380	94	87
PLES008.D	0.436	0.021	0.0538	0.0013	0.0585	0.0029	366	14	337.7	8.1	490	110	69
PLES004.D	0.407	0.015	0.0539	0.0012	0.0534	0.002	346	11	338.1	7.1	312	78	108
stdGJ16.D	0.811	0.038	0.0964	0.0024	0.0603	0.0028	605	21	592	14	568	97	104
stdGJ15.D	0.827	0.049	0.0972	0.0026	0.0615	0.0033	590	21	599	14	570	100	105
stdGJ14.D	0.829	0.039	0.1004	0.0022	0.0601	0.0028	604	21	616	13	541	93	114
stdGJ13.D	0.862	0.042	0.0987	0.0023	0.0643	0.0032	626	22	606	13	670	100	90
stdGJ12.D	0.836	0.036	0.1006	0.0026	0.0609	0.0028	615	19	617	15	568	94	109
stdGJ08.D	0.823	0.033	0.0971	0.002	0.0601	0.0025	609	18	597	12	577	90	103
stdGJ07.D	0.836	0.033	0.0981	0.0019	0.0605	0.0027	612	19	603	11	573	94	105
stdGJ06.D	0.885	0.038	0.0997	0.0022	0.0622	0.0026	635	19	612	13	623	83	98

stdGJ05.D	0.843	0.034	0.1021	0.0019	0.0576	0.0025	623	18	626	11	520	92	120
stdGJ040.D	0.858	0.04	0.0985	0.0023	0.0605	0.0028	622	21	605	14	560	91	108
stdGJ039.D	0.856	0.046	0.096	0.0023	0.0602	0.0029	616	24	590	14	540	100	109
stdGJ038.D	0.866	0.043	0.0989	0.0024	0.0608	0.0032	627	23	607	14	580	110	105
stdGJ037.D	0.955	0.056	0.1027	0.0024	0.0648	0.0036	661	25	631	14	640	110	99
stdGJ036.D	0.859	0.045	0.102	0.0026	0.0572	0.0029	634	25	626	15	470	110	133
stdGJ035.D	0.804	0.039	0.0967	0.0027	0.0607	0.0031	598	21	595	16	570	100	104
stdGJ034.D	0.832	0.044	0.0988	0.0027	0.061	0.0033	603	25	606	16	560	120	108
stdGJ033.D	0.783	0.04	0.1004	0.0028	0.0572	0.003	585	21	616	17	440	100	140
stdGJ032.D	0.791	0.039	0.0955	0.0024	0.06	0.003	582	22	587	14	570	100	103
stdGJ031.D	0.778	0.043	0.0966	0.0024	0.0586	0.0031	573	23	594	14	460	100	129
stdGJ030.D	0.771	0.035	0.0973	0.0024	0.0598	0.0029	575	20	598	14	540	100	111
stdGJ029.D	0.852	0.043	0.0975	0.0024	0.0626	0.0029	612	23	599	14	676	95	89
stdGJ028.D	0.802	0.034	0.0965	0.0021	0.0612	0.0026	595	19	595	13	587	88	101
stdGJ027.D	0.83	0.044	0.0939	0.0026	0.0639	0.0033	602	23	578	15	660	110	88
stdGJ026.D	0.792	0.051	0.0959	0.0024	0.0597	0.0029	570	22	590	14	532	99	111
stdGJ025.D	0.793	0.032	0.0945	0.0023	0.0626	0.0029	595	18	582	13	613	94	95
stdGJ024.D	0.791	0.036	0.0958	0.0022	0.0617	0.0028	591	20	589	13	618	92	95
stdGJ023.D	0.82	0.036	0.0986	0.0025	0.0622	0.0027	598	19	606	14	627	88	97
stdGJ022.D	0.776	0.028	0.0986	0.0025	0.0591	0.0024	584	16	606	15	547	86	111
stdGJ021.D	0.788	0.033	0.0996	0.0023	0.0604	0.0027	592	17	611	14	576	92	106
stdGJ020.D	0.768	0.034	0.1004	0.0025	0.0561	0.0026	573	19	616	15	431	95	143
stdGJ019.D	0.786	0.038	0.0981	0.0022	0.0595	0.0031	580	21	603	13	500	100	121
stdGJ018.D	0.775	0.041	0.096	0.0021	0.0589	0.0034	578	22	592	13	510	110	116
stdGJ017.D	0.81	0.039	0.0968	0.0022	0.0621	0.0031	595	22	595	13	640	100	93
stdGJ011.D	0.829	0.036	0.0961	0.0022	0.0622	0.0031	609	20	591	13	640	100	92

stdGJ010.D	0.82	0.033	0.0977	0.002	0.0593	0.0026	602	19	601	12	565	97	106
stdGJ009.D	0.81	0.036	0.0966	0.002	0.0595	0.0029	596	20	594	12	510	100	116

Sample Number	Pb^{207}/U^{235}		Pb^{206}/U^{238}		Pb^{207}/Pb^{206}		Age (Ma) pb^{207}/U^{235}		Age (Ma) Pb^{206}/U^{238}		Age (Ma) Pb^{207}/Pb^{206}		Concordance 10%	Th/U Ratio
Q26S3														
99.D	1.302	0.022	0.1348	0.0023	0.0682	0.0011	845	9.7	815	13	880	33	93	0.010163
98R.D	1.326	0.026	0.1399	0.0022	0.0684	0.0014	856	11	845	12	870	41	97	0.028736
97.D	2.19	0.2	0.122	0.0025	0.126	0.01	1103	61	741	14	1760	150	42	0.02994
96.D	1.871	0.038	0.1593	0.0029	0.083	0.0015	1070	14	952	16	1271	36	75	0.274499
95R.D	1.533	0.054	0.1417	0.0026	0.0778	0.0024	936	21	854	15	1113	56	77	0.027248
93.D	1.256	0.018	0.1329	0.0019	0.06827	0.00098	824.9	8.1	804	11	874	30	92	0.225734
92R.D	1.42	0.031	0.1487	0.0023	0.0682	0.0015	895	13	893	13	864	45	103	0.25641
91.D	1.251	0.032	0.1341	0.0025	0.0678	0.0017	823	14	812	14	838	51	97	0.319489
90.D	1.255	0.034	0.0902	0.0017	0.1001	0.0022	824	15	556.2	9.9	1619	42	34	0.780031
9.D	1.42	0.03	0.1421	0.0025	0.0718	0.0015	895	13	856	14	971	41	88	0.182482
8R.D	0.674	0.026	0.0798	0.0018	0.0612	0.0022	516	15	494	11	615	75	80	0.081566
89R.D	1.286	0.024	0.1213	0.0019	0.0764	0.0013	837	10	738	11	1092	33	68	0.147929
88.D	1.634	0.024	0.1428	0.0021	0.0825	0.0013	983.5	9.3	860	12	1262	28	68	0.316556
87.D	2.563	0.05	0.2049	0.0031	0.0906	0.0017	1289	14	1201	17	1440	36	83	0.18457
86R.D	1.346	0.024	0.1404	0.0021	0.0691	0.0012	866	10	846	12	894	35	95	0.031756
85R.D	1.192	0.02	0.1255	0.0021	0.06831	0.00085	796.3	9.4	762	12	881	27	86	0.053967
84.D	1.492	0.029	0.1329	0.002	0.0808	0.0016	927	12	805	12	1205	40	67	0.124378
77.D	1.309	0.026	0.1406	0.0024	0.0674	0.0014	848	11	847	13	848	41	100	0.145349
76R.D	1.556	0.055	0.1474	0.0027	0.0773	0.0027	950	22	886	15	1097	66	81	0.097752
75.D	1.456	0.03	0.1476	0.0025	0.0721	0.0015	912	13	887	14	977	41	91	0.311333
73R.D	1.05	0.032	0.1157	0.0025	0.0645	0.0019	727	16	707	14	735	60	96	0.152439
72.D	1.263	0.026	0.1356	0.0024	0.0676	0.0014	829	12	819	13	847	45	97	0.206186

70.D	1.306	0.026	0.1239	0.0026	0.0774	0.0016	848	12	753	15	1128	42	67	0.170068
7.D	0.946	0.037	0.1062	0.0032	0.064	0.0025	678	19	650	19	727	80	89	0.059524
6R.D	1.457	0.024	0.1356	0.0017	0.077	0.0012	912.7	9.9	819.2	9.8	1115	31	73	0.054407
69.D	1.684	0.038	0.152	0.0025	0.0805	0.002	999	14	911	14	1193	48	76	0.540249
68.D	1.398	0.035	0.1467	0.0024	0.0694	0.0014	885	14	882	13	896	41	98	0.132275
67.D	1.273	0.027	0.1288	0.0021	0.0706	0.0013	831	12	782	12	940	38	83	0.008606
66.D	1.628	0.06	0.1201	0.0029	0.0978	0.0038	968	20	732	17	1543	70	47	0.302663
65.D	1.39	0.03	0.1343	0.0024	0.0746	0.0016	885	12	812	14	1046	43	78	0.257268
64R.D	1.436	0.037	0.1325	0.0022	0.0789	0.0019	900	15	801	13	1143	45	70	0.062305
63R.D	1.77	0.12	0.0822	0.0043	0.1502	0.005	1006	45	507	26	2316	56	22	0.023321
62.D	1.86	0.17	0.1058	0.006	0.1202	0.0056	1014	52	635	32	1887	79	34	0.195313
61.D	1.613	0.073	0.1198	0.0018	0.0959	0.0042	961	27	729	11	1487	80	49	0.294985
59R.D	1.395	0.024	0.1266	0.0021	0.0796	0.0014	886	10	770	12	1177	35	65	0.032362
58.D	1.288	0.022	0.1385	0.0024	0.0666	0.0011	841	10	838	14	824	35	102	0.276625
56R.D	1.364	0.028	0.1414	0.002	0.0693	0.0013	873	12	852	11	904	39	94	0.18615
55.D	1.316	0.037	0.1269	0.0019	0.074	0.0023	854	16	770	11	1031	60	75	0.250627
54.D	1.749	0.039	0.1228	0.0023	0.1021	0.0025	1030	14	746	13	1642	45	45	0.125156
53R.D	1.315	0.021	0.1318	0.0022	0.0719	0.0011	852.6	9.1	798	12	974	31	82	0.046795
52.D	1.416	0.024	0.1474	0.0024	0.0691	0.0011	896	10	886	13	901	33	98	0.149276
50.D	1.396	0.025	0.1382	0.0021	0.0731	0.0012	885	11	835	12	1007	33	83	0.096805
5.D	1.474	0.037	0.1451	0.0024	0.0743	0.0019	917	15	873	13	1033	50	85	0.209205
49.D	2.98	0.058	0.2088	0.0037	0.1017	0.0019	1402	15	1221	20	1648	35	74	0.418585
48.D	1.411	0.055	0.1363	0.0034	0.0749	0.0023	890	23	823	19	1051	61	78	0.129366
47.D	1.292	0.021	0.1349	0.0024	0.0697	0.0011	842.5	9.4	815	13	920	33	89	0.194932
46R.D	1.6	0.11	0.0863	0.0028	0.1271	0.0051	940	39	533	17	2008	69	27	0.063573
45.D	1.248	0.021	0.1269	0.0021	0.0706	0.0011	821.8	9.4	770	12	944	33	82	0.111607

44.D	1.421	0.021	0.1456	0.0022	0.0709	0.0012	897.1	8.7	876	12	947	34	93	0.363636
43R.D	1.134	0.02	0.1242	0.0017	0.0649	0.001	768.5	9.5	755.4	9.9	780	31	97	0.014286
4.D	1.19	0.024	0.1278	0.0019	0.0669	0.0014	796	11	775	11	826	43	94	0.234192
37R.D	2.349	0.035	0.1024	0.0017	0.1661	0.003	1228	11	628	10	2512	31	25	1.007049
36.D	0.951	0.037	0.108	0.0026	0.0624	0.0023	678	19	662	15	677	75	98	0.035971
35.D	1.264	0.04	0.1337	0.0025	0.0691	0.0018	833	17	808	14	904	56	89	0.251256
34R.D	1.621	0.034	0.1482	0.0024	0.0787	0.0016	976	13	890	13	1150	37	77	0.100503
33.D	2.467	0.053	0.1652	0.0027	0.1074	0.0018	1259	15	986	15	1751	29	56	0.232072
32R.D	1.816	0.038	0.1251	0.0024	0.1049	0.0031	1051	13	759	14	1696	53	45	0.221239
31R.D	1.302	0.045	0.0958	0.0019	0.0993	0.0034	843	19	589	11	1564	63	38	0.045045
30.D	1.395	0.029	0.1349	0.0019	0.0738	0.0014	886	12	815	11	1039	37	78	0.224115
3.D	1.434	0.042	0.1321	0.0028	0.0797	0.0023	901	17	799	16	1163	53	69	0.07485
29R.D	0.789	0.034	0.0568	0.0011	0.099	0.0035	584	18	356.9	6.8	1562	68	23	0.083893
297.D	1.486	0.023	0.1533	0.0027	0.0697	0.0012	923.7	9.5	920	15	911	33	101	0.192308
296R.D	1.329	0.026	0.1255	0.002	0.0776	0.0014	856	11	762	11	1122	37	68	0.05711
295.D	2.372	0.042	0.197	0.0028	0.0892	0.0014	1237	12	1160	15	1403	32	83	0.418936
290.D	1.812	0.035	0.165	0.0026	0.0797	0.0016	1048	13	984	15	1190	41	83	0.255102
289.D	1.318	0.025	0.1418	0.0024	0.0693	0.0014	853	11	855	14	898	42	95	0.278552
285R.D	1.357	0.044	0.1128	0.0024	0.0922	0.0022	871	19	689	14	1471	45	47	0.042517
284.D	1.72	0.045	0.1544	0.0037	0.0838	0.0017	1018	18	925	21	1290	38	72	0.359971
283R.D	0.893	0.03	0.1025	0.0021	0.0653	0.0025	646	16	629	12	720	79	87	0.0757
281.D	1.92	0.11	0.1484	0.003	0.0995	0.0046	1061	33	891	17	1537	76	58	0.42337
280.D	2.459	0.069	0.2072	0.0041	0.093	0.0025	1254	20	1212	22	1471	49	82	0.233754
28.D	1.327	0.025	0.13	0.0021	0.0741	0.0015	855	11	787	12	1039	38	76	0.268097
279R.D	3.22	0.36	0.1141	0.0079	0.203	0.011	1349	80	690	45	2805	88	25	0.024631
278.D	1.163	0.02	0.1294	0.0021	0.067	0.0013	783.5	9.3	784	12	840	38	93	0.499251

275R.D	1.385	0.02	0.1476	0.0021	0.0694	0.0011	882.9	8.5	887	12	902	33	98	0.125628
274.D	1.381	0.025	0.1473	0.0024	0.0689	0.0012	880	11	885	13	905	35	98	0.199402
273R.D	1.455	0.026	0.1581	0.0025	0.0719	0.0012	910	11	946	14	976	35	97	0.143678
272.D	1.646	0.04	0.1645	0.0028	0.0768	0.0018	991	16	981	15	1129	49	87	0.322789
27.D	1.239	0.029	0.1224	0.0019	0.0726	0.0015	816	13	744	11	996	42	75	0.487805
26R.D	1.427	0.021	0.1477	0.0019	0.0695	0.001	899.7	8.5	888	11	904	31	98	0.036364
267.D	1.958	0.068	0.1741	0.0044	0.084	0.0021	1099	23	1033	24	1298	49	80	0.95511
266.D	1.642	0.093	0.141	0.0027	0.0864	0.0051	968	34	850	15	1230	110	69	0.533049
265.D	1.479	0.03	0.136	0.0023	0.0811	0.0016	921	12	821	13	1212	39	68	0.292227
264.D	1.371	0.051	0.1396	0.0032	0.0742	0.0021	866	18	841	18	999	48	84	0.175994
261.D	1.88	0.059	0.1612	0.0028	0.0879	0.0018	1073	20	963	15	1379	39	70	0.215517
260R.D	2.24	0.22	0.0713	0.0037	0.22	0.012	1148	70	443	22	2925	91	15	0.132626
258.D	1.617	0.038	0.1431	0.0027	0.0817	0.0022	973	15	863	15	1221	54	71	0.572082
255.D	1.369	0.041	0.1288	0.0028	0.0768	0.0025	878	17	780	16	1096	65	71	0.354233
254R.D	1.122	0.035	0.0801	0.0017	0.1006	0.0021	759	16	497	10	1625	37	31	0.032165
253.D	1.222	0.025	0.1219	0.0017	0.0725	0.0014	810	11	742	9.5	995	39	75	0.221092
252R.D	1.623	0.035	0.1359	0.0017	0.0863	0.0019	976	14	822.9	9.5	1338	43	62	0.083682
25.D	1.295	0.022	0.1378	0.0017	0.06757	0.00096	843.3	9.4	831.7	9.8	850	30	98	0.05211
236.D	1.223	0.022	0.1251	0.002	0.0704	0.0013	812	10	760	11	935	36	81	0.351865
235R.D	2.489	0.042	0.1491	0.0026	0.1196	0.0026	1267	12	895	15	1936	39	46	0.293772
234.D	1.381	0.026	0.1434	0.0023	0.0701	0.0015	881	11	864	13	920	43	94	0.331126
233R.D	1.37	0.03	0.1193	0.0024	0.0826	0.0017	874	13	726	14	1248	40	58	0.033944
232.D	1.32	0.029	0.1351	0.002	0.0705	0.0016	854	12	817	11	930	46	88	0.171527
229.D	1.258	0.026	0.1329	0.0018	0.0686	0.0015	825	12	805	11	867	45	93	0.215983
228.D	1.053	0.031	0.1128	0.0024	0.0681	0.0016	731	15	688	14	870	46	79	0.268817
227.D	1.375	0.025	0.1422	0.0022	0.0696	0.0011	876	11	856	13	911	32	94	0.106157

225R.D	1.693	0.033	0.145	0.0025	0.0844	0.0019	1006	12	872	14	1294	44	67	0.287936
224.D	1.336	0.032	0.1415	0.0026	0.0678	0.0017	861	14	852	15	849	52	100	0.388954
223R.D	1.221	0.022	0.1209	0.002	0.0727	0.0011	811	10	736	12	1000	31	74	0.041425
222.D	1.451	0.025	0.1439	0.0025	0.0724	0.0013	908	10	866	14	990	35	87	0.278396
221.D	1.058	0.02	0.1124	0.0021	0.068	0.001	732.6	9.8	686	12	862	31	80	0.247525
220.D	1.276	0.02	0.131	0.002	0.0711	0.0012	836.8	8.7	795	11	971	34	82	0.166389
22.D	1.286	0.026	0.0906	0.0017	0.1019	0.0017	839	12	559	10	1657	30	34	0.205508
21R.D	1.32	0.061	0.0541	0.0016	0.18	0.0078	843	25	337.2	8.7	2683	71	13	0.089047
219.D	1.264	0.021	0.1334	0.0019	0.068	0.0012	829.5	9.2	808	11	870	37	93	0.019194
218R.D	1.313	0.018	0.1343	0.0018	0.07024	0.00081	851	7.8	812	10	931	24	87	0.062854
218R.D	1.313	0.018	0.1343	0.0018	0.07024	0.00081	851	7.8	812	10	931	24	87	0.062854
216.D	2.025	0.046	0.1526	0.0027	0.0961	0.0022	1124	15	915	15	1537	43	60	0.205804
215R.D	1.376	0.02	0.1436	0.0021	0.0692	0.0012	880	8.6	865	12	903	34	96	0.171821
213.D	1.06	0.05	0.0949	0.0029	0.0813	0.0024	723	23	584	17	1207	56	48	0.20008
212.D	1.764	0.046	0.146	0.0028	0.0867	0.0018	1028	17	879	16	1351	41	65	0.471032
211R.D	1.448	0.046	0.111	0.0021	0.0946	0.0023	903	18	680	12	1507	46	45	0.031626
210.D	2.231	0.053	0.182	0.0037	0.0889	0.0025	1189	17	1079	20	1417	57	76	0.577701
209.D	1.263	0.021	0.1173	0.0019	0.0786	0.0014	830.5	9.4	715	11	1162	35	62	0.18797
208R.D	1.136	0.059	0.0759	0.0025	0.1048	0.0036	758	28	474	15	1702	63	28	0.047416
207.D	1.29	0.022	0.1347	0.0019	0.0691	0.00097	842.3	9.7	815	11	900	29	91	0.010893
206.D	1.597	0.035	0.1319	0.0019	0.0874	0.002	967	14	798	11	1371	43	58	0.187617
205R.D	0.965	0.013	0.104	0.0016	0.06614	0.00085	686.8	6.8	637.7	9.2	815	27	78	0.022124
204.D	3.218	0.09	0.2424	0.0056	0.096	0.002	1464	21	1397	29	1540	39	91	0.327869
203.D	1.276	0.067	0.0975	0.0026	0.0957	0.0044	828	28	600	15	1521	86	39	0.34965
202.D	1.529	0.036	0.1494	0.0026	0.0735	0.0014	940	14	898	15	1012	38	89	0.146199
201.D	1.099	0.024	0.1183	0.0018	0.0666	0.0016	758	11	720	10	823	50	87	0.119474

200R.D	1.241	0.03	0.1104	0.0021	0.083	0.002	816	14	676	12	1258	47	54	0.054975
1R.D	1.2	0.03	0.1243	0.0022	0.0699	0.0016	799	14	757	13	902	47	84	0.018083
199.D	1.311	0.024	0.1217	0.0021	0.0781	0.0017	851	10	741	12	1140	40	65	0.112613
198.D	1.434	0.029	0.1246	0.0019	0.0828	0.0019	903	12	757	11	1252	45	60	0.164745
197.D	1.661	0.029	0.1407	0.002	0.0849	0.0013	994	11	849	12	1315	31	65	0.460829
196R.D	1.428	0.032	0.1334	0.0024	0.0772	0.0018	897	13	810	14	1123	46	72	0.159236
195.D	1.195	0.053	0.0919	0.0022	0.0957	0.0029	800	25	567	13	1532	56	37	0.183824
194R.D	1.245	0.019	0.1285	0.0021	0.0689	0.0011	822.5	8.8	780	12	898	33	87	0.06993
193.D	1.179	0.029	0.1262	0.0019	0.0674	0.0018	789	13	766	11	840	55	91	0.365898
192.D	1.544	0.038	0.1151	0.0018	0.098	0.0023	949	15	702	10	1574	43	45	0.158755
191R.D	1.301	0.03	0.1399	0.0019	0.0673	0.0017	843	13	844	11	829	53	102	0.331126
190.D	1.362	0.024	0.1401	0.0022	0.0707	0.0012	873	11	846	12	947	37	89	0.112994
19.D	0.911	0.023	0.0967	0.0017	0.0667	0.0016	655	12	596	10	833	52	72	0.215983
189.D	1.181	0.019	0.125	0.0021	0.06823	0.00091	791.5	8.7	759	12	867	28	88	0.009542
187.D	1.618	0.029	0.1595	0.0027	0.0737	0.0015	976	11	953	15	1030	39	93	0.355114
186R.D	1.209	0.023	0.1143	0.002	0.0775	0.0015	805	11	697	12	1129	38	62	0.081633
185R.D	0.924	0.016	0.102	0.0015	0.06568	0.00089	665	8.4	625.7	8.6	797	29	79	0.022989
184.D	2.853	0.075	0.2111	0.0038	0.0972	0.0023	1364	20	1235	20	1567	45	79	0.501756
183.D	1.374	0.024	0.1419	0.0021	0.0703	0.0011	880	10	857	12	935	34	92	0.145518
182R.D	1.328	0.02	0.1332	0.0017	0.0725	0.001	856.6	8.6	805.7	9.7	994	28	81	0.089421
181.D	1.447	0.038	0.1281	0.0024	0.081	0.0029	906	15	777	14	1178	68	66	0.310945
180.D	2.043	0.046	0.168	0.003	0.0871	0.002	1128	15	1000	16	1363	46	73	0.995025
18.D	1.739	0.093	0.1253	0.0022	0.1017	0.0046	1008	31	761	13	1611	75	47	0.027933
17R.D	1.209	0.064	0.1038	0.0027	0.0832	0.0042	805	30	637	16	1260	100	51	0.081235
17R.D	1.219	0.046	0.1127	0.0026	0.0798	0.0028	805	20	688	15	1161	66	59	0.082576
179R.D	3.64	0.34	0.112	0.0056	0.222	0.013	1465	74	681	32	2926	99	23	0.288684

178R.D	1.501	0.025	0.1461	0.0024	0.0736	0.0011	929	10	878	14	1021	31	86	0.080321
177.D	1.364	0.021	0.1443	0.002	0.0682	0.0013	873.7	8.8	869	11	865	38	100	0.094697
177.D	1.361	0.021	0.146	0.0019	0.0678	0.0012	871.8	8.9	878	11	854	37	103	0.094073
176.D	1.351	0.034	0.1031	0.002	0.0964	0.0021	867	15	633	11	1537	43	41	0.549451
175.D	1.358	0.023	0.1401	0.0025	0.0698	0.0011	869	9.8	845	14	930	32	91	0.140056
174.D	1.462	0.025	0.1473	0.0023	0.072	0.0013	914	10	887	12	989	38	90	0.202429
172.D	2.347	0.072	0.1937	0.0041	0.0865	0.0026	1223	22	1140	22	1356	61	84	0.564972
171R.D	1.28	0.03	0.1129	0.002	0.0818	0.0016	839	13	689	12	1237	38	56	0.119048
170.D	1.375	0.038	0.1395	0.003	0.0711	0.0015	876	16	842	17	947	41	89	0.23912
16R.D	1.119	0.036	0.1171	0.004	0.0692	0.0016	762	17	713	23	905	48	79	0.045475
169.D	1.304	0.04	0.1323	0.0037	0.0709	0.0017	842	17	800	21	956	48	84	0.146413
167.D	3.403	0.069	0.2634	0.0051	0.093	0.0011	1502	16	1508	26	1486	22	101	0.592417
166.D	5.227	0.092	0.2676	0.0043	0.141	0.0024	1857	15	1529	22	2231	30	69	0.390016
165.D	1.306	0.027	0.1369	0.0025	0.06916	0.00093	849	11	827	14	898	28	92	0.274725
164R.D	1.237	0.034	0.1122	0.0022	0.0793	0.0014	818	15	685	13	1181	37	58	0.011099
163.D	1.565	0.037	0.1323	0.0023	0.0836	0.0018	958	14	804	13	1275	42	63	0.337496
162R.D	1.466	0.067	0.1123	0.0029	0.0933	0.0032	903	27	685	17	1460	63	47	0.149745
161.D	1.105	0.024	0.1162	0.0025	0.0693	0.0012	755	11	708	15	909	35	78	0.059524
160.D	1.365	0.023	0.1412	0.0022	0.07	0.0012	873	10	854	12	925	36	92	0.186951
159R.D	1.78	0.18	0.0894	0.0057	0.1463	0.008	1012	64	549	33	2240	100	25	0.035499
158.D	1.402	0.026	0.1336	0.0022	0.0754	0.0016	888	11	808	13	1073	41	75	0.069013
157.D	1.167	0.025	0.1259	0.0023	0.0664	0.0015	786	12	764	13	831	47	92	0.170097
156R.D	0.565	0.017	0.0725	0.0014	0.0568	0.0019	454	11	450.8	8.4	459	66	98	0.123381
155.D	1.161	0.037	0.1099	0.0019	0.077	0.0022	777	17	672	11	1094	54	61	0.08881
154R.D	1.324	0.064	0.1156	0.0024	0.0823	0.0034	843	25	705	14	1179	74	60	0.036617
153.D	1.396	0.025	0.1386	0.0023	0.0719	0.0011	887	10	836	13	978	29	85	0.106383

152.D	1.161	0.026	0.1	0.0025	0.0847	0.0015	784	12	614	14	1305	36	47	0.024691
151R.D	0.929	0.037	0.0829	0.002	0.0814	0.0035	660	19	513	12	1160	81	44	0.174216
150.D	1.371	0.029	0.1315	0.0017	0.0753	0.0016	873	12	797	10	1053	38	76	0.469043
15.D	1.341	0.025	0.13	0.0018	0.0743	0.0013	863	10	788	10	1050	35	75	0.175623
149R.D	1.448	0.024	0.147	0.0023	0.0713	0.0011	909	10	884	13	963	31	92	0.126807
148.D	1.329	0.02	0.1434	0.0022	0.06677	0.00073	858	8.9	865	13	827	22	105	0.057604
147R.D	1.418	0.022	0.1455	0.0021	0.0709	0.001	895.8	9	875	12	951	29	92	0.149165
145.D	1.265	0.029	0.1338	0.0021	0.0686	0.0019	833	13	809	12	867	59	93	0.258131
144.D	1.884	0.067	0.1224	0.0032	0.111	0.0034	1072	24	744	18	1805	56	41	0.069686
143.D	1.391	0.021	0.1318	0.0021	0.0771	0.0011	884.5	8.9	798	12	1125	26	71	0.038008
142.D	1.234	0.02	0.1269	0.0021	0.0698	0.0012	816.7	9	770	12	915	37	84	0.173611
141.D	1.474	0.027	0.1318	0.0021	0.0806	0.0016	923	11	798	12	1211	40	66	0.22779
14.D	1.295	0.042	0.1336	0.0035	0.0699	0.0018	841	19	808	20	932	51	87	0.044643
13R.D	0.655	0.022	0.0807	0.0015	0.0581	0.0016	508	13	500	9.1	507	59	99	0.017271
139.D	1.353	0.046	0.1462	0.0027	0.0668	0.0023	869	20	879	15	813	74	108	0.451875
137.D	1.538	0.035	0.1443	0.0031	0.0761	0.0015	944	14	869	17	1096	41	79	0.137552
136.D	1.677	0.037	0.1515	0.0025	0.08	0.0016	999	14	911	14	1204	39	76	0.151699
135R.D	1.236	0.039	0.1279	0.0031	0.0677	0.0017	816	18	775	18	854	51	91	0.066934
134R.D	0.594	0.023	0.0762	0.0016	0.0552	0.0023	474	15	473.9	9.5	402	87	118	0.055463
133.D	1.296	0.041	0.1268	0.004	0.074	0.0011	839	18	768	23	1040	29	74	0.094518
132.D	1.192	0.023	0.129	0.0021	0.0668	0.0011	797	11	782	12	823	35	95	0.185117
130.D	1.433	0.025	0.1465	0.0023	0.0698	0.0014	904	10	881	13	928	41	95	0.327439
128.D	1.209	0.026	0.1223	0.0019	0.0719	0.0016	805	12	743	11	980	46	76	0.161812
127R.D	1.293	0.022	0.1324	0.002	0.07055	0.00095	841.9	9.9	801	11	945	28	85	0.059418
126R.D	0.671	0.023	0.0845	0.0016	0.0577	0.002	518	14	522.9	9.7	465	73	112	0.058651
125.D	1.458	0.039	0.1257	0.0028	0.0833	0.0021	913	16	761	16	1262	46	60	0.167785

124.D	1.724	0.051	0.1115	0.0022	0.1118	0.0029	1014	19	683	13	1817	47	38	0.392003
121.D	2.685	0.056	0.2117	0.0039	0.092	0.0018	1321	16	1239	21	1467	37	84	0.237304
120R.D	2.09	0.25	0.068	0.0042	0.19	0.012	1032	74	422	25	2640	110	16	0.01773
12.D	1.72	0.096	0.0549	0.0024	0.2327	0.008	1009	34	346	15	3048	55	11	0.263158
119.D	1.184	0.02	0.1267	0.0021	0.0672	0.0012	792.6	9.3	769	12	852	35	90	0.454545
115R.D	1.248	0.02	0.1247	0.002	0.07123	0.00088	822.6	8.9	758	12	966	25	78	0.045249
113.D	1.368	0.023	0.1456	0.0023	0.0674	0.0011	873.5	9.7	878	13	844	33	104	0.541126
112.D	1.378	0.035	0.1343	0.0025	0.074	0.0019	879	15	814	14	1053	51	77	0.189107
110.D	1.212	0.019	0.1244	0.0017	0.0702	0.0011	804.9	8.6	757.3	9.8	937	33	81	0.17298
11.D	1.06	0.02	0.1059	0.002	0.0726	0.0011	734	10	648	12	995	30	65	0.018868
10R.D	1.157	0.037	0.1128	0.0026	0.0736	0.0014	776	17	689	15	1011	36	68	0.044843
109R.D	1.19	0.019	0.1301	0.002	0.0659	0.001	795.2	8.9	788	12	798	34	99	0.051948
108.D	1.278	0.029	0.1358	0.0022	0.0688	0.0017	839	13	820	12	879	52	93	0.153139
107R.D	0.675	0.032	0.0802	0.0019	0.0624	0.0033	521	19	498	11	620	100	80	0.092081
106.D	1.494	0.026	0.1351	0.0023	0.0798	0.0013	928	11	816	13	1182	32	69	0.073692
104.D	2.395	0.039	0.1921	0.003	0.0901	0.0018	1246	12	1132	16	1414	37	80	0.293513
102R.D	1.199	0.025	0.1287	0.002	0.0678	0.0013	803	11	781	12	865	41	90	0.163479
101.D	1.115	0.022	0.1186	0.0021	0.0687	0.0012	761	10	722	12	887	34	81	0.141064
100.D	2.104	0.041	0.1443	0.0021	0.107	0.0024	1149	14	868	12	1727	42	50	0.654879
stdGJ65.D	0.799	0.033	0.0943	0.0025	0.0618	0.0028	593	19	581	15	622	91		
stdGJ64.D	0.801	0.038	0.095	0.0023	0.0624	0.003	594	20	584	14	613	96		
stdGJ63.D	0.807	0.036	0.0974	0.0022	0.0612	0.0028	595	20	599	13	578	96		
stdGJ61.D	0.826	0.036	0.1002	0.0023	0.0602	0.0029	606	19	615	14	570	100		
stdGJ60.D	0.799	0.036	0.0972	0.0021	0.0589	0.0028	592	20	598	12	526	98		
stdGJ59.D	0.811	0.036	0.0984	0.0022	0.06	0.0027	599	20	604	13	584	89		
stdGJ58.D	0.771	0.034	0.0978	0.0022	0.0573	0.0028	575	19	601	13	458	96		

stdGJ56.D	0.818	0.037	0.0956	0.0022	0.0616	0.0028	599	21	589	13	614	93
stdGJ55.D	0.817	0.035	0.1013	0.0023	0.0578	0.0025	601	19	622	14	481	88
stdGJ52.D	0.766	0.031	0.0972	0.002	0.0576	0.0024	575	17	598	12	461	85
stdGJ51.D	0.812	0.038	0.0983	0.0023	0.0596	0.0027	602	20	604	13	560	95
stdGJ50.D	0.792	0.036	0.0986	0.0025	0.0586	0.0026	589	19	605	15	519	95
stdGJ48.D	0.85	0.036	0.098	0.0021	0.062	0.0027	617	20	602	12	662	91
stdGJ47.D	0.859	0.044	0.0981	0.0024	0.0627	0.0031	616	21	603	14	631	96
stdGJ45.D	0.816	0.028	0.1	0.0024	0.06	0.0025	603	15	616	14	552	84
stdGJ44.D	0.785	0.033	0.0971	0.0021	0.0588	0.0025	584	18	598	12	513	87
stdGJ43.D	0.803	0.037	0.097	0.0023	0.0595	0.0027	592	20	596	13	548	95
stdGJ42.D	0.824	0.033	0.0965	0.0021	0.0623	0.0029	609	18	594	12	641	94
stdGJ41.D	0.811	0.032	0.0971	0.0023	0.0608	0.0026	602	18	597	14	573	93
stdGJ40.D	0.824	0.035	0.0989	0.0023	0.0591	0.0028	605	19	607	14	521	96
stdGJ39.D	0.81	0.037	0.1014	0.0021	0.0577	0.0026	598	20	622	12	467	96
stdGJ37.D	0.869	0.034	0.1001	0.0022	0.0633	0.0026	630	19	615	13	660	88
stdGJ36.D	0.829	0.036	0.0981	0.0023	0.0607	0.0026	611	19	603	13	592	88
stdGJ35.D	0.828	0.038	0.0988	0.002	0.0601	0.0028	610	20	607	12	536	94
stdGJ34.D	0.775	0.036	0.0967	0.0021	0.0585	0.0026	575	20	594	13	523	92
stdGJ33.D	0.806	0.031	0.097	0.0022	0.0609	0.0027	596	17	597	13	570	91
stdGJ31.D	0.818	0.036	0.0971	0.0022	0.0616	0.0028	599	21	597	13	598	96
stdGJ30.D	0.849	0.036	0.0984	0.0023	0.0619	0.0028	625	19	605	13	663	96
stdGJ29.D	0.808	0.034	0.098	0.002	0.0596	0.0026	596	19	603	12	555	93
stdGJ27.D	0.83	0.036	0.0983	0.0024	0.0616	0.0027	612	19	605	14	615	94
stdGJ26.D	0.802	0.035	0.0958	0.0022	0.0617	0.0027	595	19	589	13	628	92
stdGJ25.D	0.799	0.034	0.0944	0.0019	0.061	0.0026	591	19	582	11	594	90
stdGJ24.D	0.775	0.036	0.0937	0.0019	0.0596	0.0027	581	20	578	11	568	96

stdGJ23.D	0.774	0.032	0.0952	0.0022	0.0581	0.0026	581	18	586	13	508	91
stdGJ21.D	0.823	0.036	0.0972	0.0023	0.0613	0.0028	602	20	597	13	590	96
stdGJ20.D	0.818	0.03	0.096	0.0023	0.0619	0.0023	602	17	590	14	617	81
stdGJ19.D	0.742	0.032	0.0928	0.0023	0.0584	0.0027	561	18	574	14	513	92
stdGJ11.D	0.812	0.03	0.0981	0.0021	0.0602	0.0024	599	17	603	12	544	86
stdGJ10.D	0.761	0.031	0.0968	0.0021	0.0576	0.0025	574	17	596	13	476	91
stdGJ09.D	0.779	0.032	0.0984	0.0019	0.0576	0.0025	585	18	605	11	468	90
stdGJ08.D	0.84	0.031	0.0994	0.0021	0.0609	0.0024	620	17	611	12	580	85
stdGJ07.D	0.876	0.034	0.1009	0.0022	0.0632	0.0025	634	18	620	13	645	82
stdGJ03.D	0.833	0.032	0.1001	0.0016	0.0595	0.0024	615	17	614.7	9.4	557	84
PLES28.D	0.409	0.018	0.054	0.0013	0.0547	0.0025	345	13	338.5	8.1	338	91
PLES27.D	0.382	0.012	0.0523	0.001	0.0522	0.0015	327.6	8.4	328.3	6.1	279	61
PLES26.D	0.383	0.011	0.05341	0.00099	0.0522	0.0015	327.9	8.4	335.3	6.1	272	59
PLES25.D	0.381	0.011	0.05173	0.00093	0.0525	0.0016	328.2	7.7	325.1	5.7	304	62
PLES24.D	0.392	0.016	0.0538	0.0012	0.0534	0.0022	334	12	338.1	7.1	329	83
PLES23.D	0.502	0.02	0.0547	0.0012	0.0682	0.0031	411	13	343	7.1	815	93
PLES22.D	0.389	0.015	0.05278	0.00097	0.0524	0.0019	331	11	331.5	5.9	301	76
PLES21.D	0.363	0.016	0.0519	0.0011	0.0508	0.0024	312	12	325.7	6.8	221	92
PLES20.D	0.397	0.012	0.05388	0.00089	0.0524	0.0016	337.9	8.3	338.2	5.5	280	62
PLES19.D	0.406	0.013	0.0551	0.0011	0.0529	0.0015	344.5	9	345.9	6.7	315	59
PLES18.D	0.392	0.01	0.0533	0.001	0.0536	0.0014	335.9	7.4	334.6	6.2	351	55
PLES17.D	0.3929	0.0096	0.05365	0.00087	0.0532	0.0013	336.8	6.9	336.8	5.3	330	51
PLES15.D	0.386	0.012	0.053	0.00094	0.052	0.0017	329.6	9.1	332.8	5.8	272	69
PLES14.D	0.377	0.014	0.0526	0.0012	0.0514	0.0021	323	10	330.1	7.2	251	83
PLES13.D	0.379	0.013	0.0516	0.001	0.0534	0.0019	326.4	9.3	324.3	6.1	334	76
PLES12.D	0.388	0.014	0.0529	0.0011	0.0532	0.0022	331	10	332.3	6.5	300	80

PLES11.D	0.39	0.012	0.0551	0.0011	0.051	0.0017	332.7	9.1	346.3	6.5	251	71
PLES10.D	0.379	0.013	0.0523	0.001	0.0523	0.0019	326.4	9.4	328.7	6.1	284	75
PLES09.D	0.383	0.014	0.0524	0.001	0.0524	0.0019	328	10	330.8	6.2	300	74
PLES08.D	0.364	0.013	0.05055	0.00093	0.0521	0.002	314	9.8	317.8	5.7	277	78
PLES07.D	0.358	0.013	0.0495	0.001	0.0525	0.0021	309.7	9.3	311.4	6.2	301	81
PLES06.D	0.369	0.014	0.05089	0.00094	0.0529	0.002	318	10	319.9	5.7	292	75
PLES05.D	0.342	0.011	0.04832	0.00096	0.052	0.002	300.3	8.7	304.1	5.9	271	79
PLES04.D	0.38	0.013	0.05182	0.00094	0.0529	0.0019	324.3	8.9	325.6	5.8	298	71
PLES03.D	0.403	0.012	0.05522	0.00099	0.0535	0.0018	342.4	8.9	346.4	6	313	69
PLES02.D	0.395	0.014	0.0549	0.0011	0.0524	0.002	337	10	344.5	6.6	276	78
PLES01.D	0.405	0.013	0.055	0.0011	0.0534	0.002	345.3	9.3	345	6.7	323	77

Source file	Pb^{207}/U^{235}		Pb^{207}/Pb^{206}		Pb^{207}/Pb^{206}		Age (Ma) pb^{207}/U^{235}		Age (Ma) Pb^{206}/U^{238}		Age (Ma) Pb^{207}/Pb^{206}		Concordance 10%	Th/
Q26S3														
9R.D	1.516	0.024	0.15	0.0021	0.07323	0.00093	935.8	9.6	901	12	1017	27	63	
99.D	1.437	0.029	0.1497	0.0025	0.0687	0.0016	903	12	899	14	897	49	91	
98.D	1.075	0.021	0.1188	0.0018	0.0646	0.0014	741	11	724	10	755	45	91	
96.D	1.026	0.022	0.1135	0.002	0.0644	0.0014	716	11	693	12	769	48	90	
95.D	1.133	0.024	0.1206	0.0021	0.0681	0.0014	768	12	735	12	866	44	90	
94.D	1.748	0.042	0.1735	0.0035	0.0733	0.0017	1022	15	1030	19	1024	46	90	
93.D	1.853	0.048	0.1483	0.0029	0.0903	0.0023	1062	17	890	16	1420	49	90	
92.D	1.357	0.029	0.1342	0.0024	0.0724	0.0017	869	13	811	14	987	49	90	
91.D	1.341	0.029	0.1422	0.0023	0.0679	0.0016	862	12	858	13	850	49	90	
90.D	1.162	0.022	0.1247	0.0018	0.0673	0.0012	783	10	757	10	838	36	90	
89R.D	1.312	0.032	0.1382	0.0024	0.067	0.0016	850	14	834	13	835	52	90	
88.D	1.021	0.032	0.1099	0.0023	0.0662	0.0023	712	16	673	13	795	71	89	
87.D	1.311	0.044	0.1401	0.0033	0.0681	0.0028	849	19	846	19	817	88	89	
86R.D	0.572	0.018	0.0749	0.0014	0.0544	0.0019	460	12	465.5	8.4	374	72	89	
85.D	0.641	0.021	0.0802	0.0015	0.0577	0.002	504	13	496.9	9.1	493	73	89	
84.D	1.129	0.028	0.1216	0.0022	0.0663	0.0017	765	13	739	13	836	56	89	
83R.D	0.641	0.019	0.0792	0.0015	0.0585	0.0019	501	12	490.9	9.1	535	68	89	
82.D	1.289	0.026	0.1379	0.0022	0.0678	0.0016	842	12	832	13	864	48	89	
81.D	1.33	0.036	0.141	0.0026	0.0684	0.0019	862	16	851	15	848	58	89	
80.D	3.098	0.086	0.2251	0.0048	0.0993	0.0024	1431	21	1309	25	1594	46	89	
8.D	0.832	0.026	0.0995	0.0021	0.0626	0.0022	613	14	611	12	666	72	57	
79.D	1.857	0.07	0.1647	0.0035	0.083	0.0032	1076	24	984	20	1255	76	88	
78R.D	1.104	0.033	0.1249	0.0026	0.0654	0.002	752	17	758	15	766	63	88	

77.D	1.321	0.035	0.1314	0.0025	0.0727	0.0019	853	15	795	14	1011	53	88
76.D	0.61	0.016	0.0773	0.0014	0.0568	0.0016	483	10	480	8.4	463	60	88
75.D	1.513	0.037	0.1533	0.0029	0.0705	0.0018	936	15	920	16	945	53	88
74.D	3.354	0.087	0.2592	0.0062	0.095	0.0026	1494	20	1486	31	1518	55	88
73.D	1.17	0.034	0.1257	0.0028	0.0681	0.0023	788	16	762	16	891	66	88
72.D	1.48	0.035	0.1386	0.0028	0.0776	0.0022	919	14	836	16	1121	58	88
71.D	1.414	0.035	0.1495	0.0033	0.0682	0.002	895	15	897	18	869	63	88
70.D	1.008	0.031	0.1131	0.0023	0.0637	0.0023	708	16	690	13	714	77	88
7.D	1.67	0.035	0.1564	0.0027	0.0773	0.0018	997	14	938	15	1130	47	54
69.D	1.149	0.025	0.1192	0.002	0.0695	0.0014	774	12	726	11	906	43	87
68R.D	1.383	0.028	0.1451	0.0023	0.0685	0.0015	885	12	873	13	890	44	87
67.D	1.382	0.032	0.1438	0.0024	0.0695	0.0016	883	13	867	14	894	48	86
66.D	1.036	0.035	0.1188	0.0023	0.0633	0.0023	721	18	724	14	702	78	85
65.D	0.572	0.019	0.074	0.0015	0.0565	0.0022	462	12	460.2	9.1	422	81	85
64R.D	1.156	0.028	0.124	0.0022	0.0672	0.0017	778	13	753	13	818	50	85
63.D	1.999	0.04	0.178	0.0029	0.0801	0.0018	1114	13	1057	16	1194	43	85
62.D	1.234	0.043	0.1274	0.0033	0.0683	0.0024	815	20	774	19	880	71	85
61R.D	1.387	0.037	0.145	0.0027	0.0689	0.0018	880	16	874	15	888	56	85
60.D	1.315	0.034	0.1336	0.0025	0.0705	0.002	853	16	808	14	933	59	84
6.D	0.967	0.036	0.1095	0.0024	0.0646	0.0028	685	19	671	14	706	89	53
59.D	1.383	0.056	0.1213	0.0028	0.0838	0.0035	878	24	737	16	1296	76	84
58.D	1.37	0.031	0.1256	0.002	0.0791	0.0016	877	13	762	12	1175	40	84
57.D	1.951	0.04	0.1777	0.0031	0.0795	0.0016	1096	14	1054	17	1175	40	84
56.D	1.091	0.03	0.1192	0.0023	0.0659	0.002	749	15	727	13	786	62	83

55R.D	1.346	0.026	0.1418	0.0026	0.0684	0.0014	867	11	854	14	877	41	83
54.D	1.111	0.046	0.1189	0.0034	0.068	0.0034	755	23	724	19	820	110	83
53.D	0.962	0.02	0.1056	0.0017	0.0652	0.0012	684	10	646.7	9.7	786	41	83
52.D	2.509	0.062	0.2005	0.0036	0.0901	0.0021	1274	18	1179	19	1423	45	83
51.D	0.953	0.033	0.1093	0.0028	0.0644	0.0025	676	17	670	16	722	79	83
50.D	1.033	0.025	0.1131	0.0024	0.0661	0.0019	717	12	690	14	822	58	82
5.D	1.103	0.03	0.1162	0.0024	0.069	0.0023	760	14	710	14	883	69	50
49.D	1.278	0.036	0.1342	0.0023	0.0689	0.0017	834	16	811	13	887	54	82
48.D	0.654	0.018	0.0771	0.0013	0.0606	0.0016	509	11	478.8	7.6	631	57	82
47.D	1.434	0.024	0.1517	0.0022	0.0686	0.0014	902.4	9.9	910	12	895	43	82
46.D	1.145	0.028	0.1274	0.0026	0.0668	0.0019	773	13	774	15	818	58	82
45.D	1.277	0.032	0.1362	0.0026	0.0687	0.0016	834	14	823	15	882	53	81
44.D	1.061	0.023	0.0974	0.0016	0.0778	0.0017	733	11	598.9	9.2	1132	44	81
43R.D	1.358	0.029	0.1416	0.0024	0.0691	0.0016	874	13	853	13	897	48	81
42R.D	0.904	0.041	0.1044	0.0034	0.063	0.0019	655	22	639	20	723	64	81
41.D	1.013	0.033	0.108	0.0024	0.0678	0.0022	707	17	662	14	862	65	80
40.D	1.164	0.026	0.1274	0.0023	0.067	0.0013	783	12	774	14	844	41	80
39.D	1.224	0.029	0.1245	0.002	0.0706	0.0013	814	13	756	11	939	39	80
38.D	1.868	0.052	0.1633	0.0036	0.0831	0.0022	1077	19	974	20	1248	52	80
37R.D	1.233	0.031	0.1319	0.0022	0.0676	0.0018	816	14	798	13	852	54	80
36.D	1.45	0.06	0.1484	0.0042	0.0723	0.002	909	25	890	24	1002	55	79
35.D	0.591	0.012	0.0736	0.0012	0.0567	0.0013	471.3	7.8	459.2	7	474	49	79
34.D	0.822	0.049	0.0902	0.0032	0.0647	0.0024	598	27	556	19	728	79	79
33R.D	1.353	0.025	0.1294	0.002	0.0761	0.0015	868	11	785	11	1097	39	79

32.D	1.367	0.023	0.1274	0.0028	0.0785	0.0019	874.3	9.6	772	16	1156	50	78
31.D	1.33	0.031	0.1366	0.0026	0.0701	0.0017	857	14	826	15	915	49	78
30.D	0.982	0.025	0.1115	0.002	0.0632	0.0016	693	13	681	12	713	53	78
29.D	1.381	0.028	0.1433	0.0021	0.0706	0.0015	879	12	863	12	950	42	77
28.D	3.272	0.068	0.2405	0.0045	0.0964	0.0015	1470	16	1388	23	1552	28	77
27.D	1.243	0.025	0.1327	0.0019	0.067	0.0013	820	11	803	11	833	42	77
26.D	1.263	0.024	0.1347	0.0019	0.0672	0.0012	827	11	815	11	844	38	76
25.D	1.367	0.037	0.1457	0.0025	0.0672	0.0019	874	16	876	14	830	60	76
24.D	4.82	0.13	0.246	0.0054	0.1404	0.0024	1784	23	1418	28	2227	29	76
23.D	0.656	0.017	0.0796	0.0012	0.0594	0.0017	510	10	493.5	7.1	542	62	75
22.D	1.574	0.053	0.1214	0.0031	0.0923	0.0026	956	21	738	18	1487	53	74
21.D	1.061	0.035	0.1124	0.0022	0.0684	0.0026	735	17	688	13	865	81	74
20R.D	1.399	0.024	0.1453	0.0021	0.0688	0.0012	886	10	877	11	895	36	73
19.D	1.127	0.026	0.1179	0.0019	0.0686	0.0016	767	12	720	11	877	47	72
18.D	2.71	0.065	0.2279	0.0036	0.0865	0.002	1332	18	1323	19	1352	45	72
174.D	0.958	0.039	0.1082	0.0026	0.0638	0.0028	681	21	663	15	680	92	126
173.D	1.199	0.056	0.1317	0.0036	0.0638	0.003	793	26	798	20	716	96	124
172.D	1.189	0.044	0.1264	0.0033	0.066	0.0026	793	20	766	19	823	84	123
171.D	2.063	0.05	0.1764	0.0034	0.0833	0.0018	1136	17	1046	19	1271	43	112
170.D	1.057	0.035	0.1066	0.0022	0.0698	0.0023	731	17	654	13	892	69	111
17.D	1.246	0.024	0.1293	0.0019	0.069	0.0013	821	10	783	11	894	40	70
169.D	3.03	0.064	0.2199	0.0038	0.0973	0.0018	1414	16	1280	20	1575	35	109
168.D	1.75	0.052	0.1572	0.0037	0.0797	0.0021	1024	19	940	20	1181	53	106
167.D	1.251	0.038	0.1327	0.003	0.0663	0.0014	821	17	807	17	827	46	105

166.D	1.15	0.032	0.1217	0.0026	0.0689	0.0018	776	15	740	15	892	54	104
165.D	3.576	0.083	0.2557	0.005	0.101	0.0022	1543	18	1468	26	1649	39	104
164.D	1.841	0.067	0.1604	0.0039	0.0841	0.0027	1053	23	957	22	1298	65	104
163.D	1.209	0.024	0.1226	0.0021	0.0708	0.0012	807	11	746	12	946	34	104
162R.D	1.453	0.028	0.1503	0.0022	0.0692	0.0013	912	11	902	12	900	39	103
161.D	1.595	0.039	0.1497	0.0026	0.0753	0.0018	967	16	898	14	1074	45	103
160.D	1.148	0.035	0.1228	0.0027	0.0662	0.002	780	16	746	16	792	68	102
16.D	1.183	0.027	0.1236	0.0021	0.0708	0.0019	792	13	751	12	945	56	70
159.D	1.326	0.035	0.1347	0.003	0.0702	0.0017	858	15	815	17	916	50	101
158.D	2.175	0.061	0.1793	0.0042	0.0873	0.0013	1169	20	1061	23	1359	29	101
157R.D	1.445	0.026	0.1484	0.0025	0.07	0.0013	907	11	891	14	931	37	101
156.D	0.95	0.047	0.1085	0.0038	0.064	0.003	672	24	662	22	696	97	101
155.D	0.532	0.023	0.0706	0.0017	0.0537	0.0025	430	15	439.3	9.9	357	99	101
154.D	0.572	0.021	0.0751	0.0015	0.0545	0.0021	462	13	467.6	9	370	78	101
153.D	1.327	0.039	0.1383	0.0028	0.0681	0.0019	855	17	834	16	850	56	100
152.D	0.579	0.012	0.0747	0.0013	0.0555	0.0013	462.8	7.6	464.4	7.8	416	51	100
151.D	1.114	0.041	0.1254	0.0031	0.0647	0.0025	762	19	761	18	722	81	100
150.D	1.368	0.024	0.1378	0.0021	0.0706	0.001	873	10	832	12	938	30	100
15.D	0.904	0.036	0.1026	0.0025	0.0637	0.002	652	20	630	15	714	65	69
149.D	1.313	0.039	0.1369	0.0027	0.0698	0.0021	856	16	827	15	903	60	100
148.D	1.215	0.041	0.1295	0.0027	0.067	0.0024	808	19	786	16	825	74	100
147R.D	1.423	0.031	0.14	0.0027	0.0732	0.0018	897	13	844	15	1015	49	99
146.D	0.924	0.026	0.0959	0.0022	0.0674	0.0019	667	13	590	13	848	59	99
145.D	1.266	0.028	0.1323	0.0024	0.0687	0.0013	831	12	800	14	890	38	98

144.D	1.394	0.037	0.1378	0.0026	0.0724	0.0015	885	15	833	15	982	43	98
143.D	3.056	0.049	0.2319	0.0037	0.0931	0.0017	1421	12	1343	19	1490	34	98
142.D	0.709	0.033	0.0845	0.002	0.0611	0.0031	543	20	524	12	587	98	98
141.D	1.921	0.049	0.1664	0.0036	0.0832	0.0021	1083	17	991	20	1262	50	98
140.D	0.743	0.024	0.0883	0.0022	0.0595	0.0019	564	14	545	13	583	69	98
14.D	1.244	0.026	0.1323	0.0021	0.0672	0.0014	818	12	801	12	835	41	68
139.D	1.862	0.043	0.1555	0.0032	0.0858	0.0015	1066	15	931	18	1333	35	98
138.D	1.665	0.059	0.1566	0.0031	0.0781	0.0024	991	22	940	18	1127	63	98
137.D	0.783	0.023	0.0947	0.0019	0.0592	0.0019	587	13	583	11	559	68	97
136.D	1.127	0.024	0.1198	0.0022	0.0669	0.0014	765	12	730	13	830	42	97
135.D	1.638	0.053	0.1468	0.0033	0.0795	0.002	984	20	884	19	1159	51	97
134.D	1.371	0.027	0.1295	0.002	0.0762	0.0016	875	11	784	11	1093	42	97
133.D	1.255	0.032	0.1291	0.0025	0.0691	0.0018	823	15	784	14	890	54	97
132.D	1.377	0.022	0.1441	0.0021	0.0681	0.0012	878.2	9.3	869	12	868	38	97
131.D	1.266	0.031	0.1194	0.0023	0.0751	0.002	828	14	726	13	1069	53	96
130.D	1.872	0.074	0.1671	0.0045	0.0789	0.0022	1064	26	994	25	1168	57	96
13.D	1.402	0.022	0.1324	0.0022	0.0763	0.0013	888.2	9.2	801	12	1087	36	67
129.D	1.087	0.025	0.119	0.0021	0.0657	0.0015	747	12	726	12	793	51	96
128.D	1.104	0.022	0.0974	0.0017	0.0678	0.0016	754	10	599	10	866	47	96
127.D	1.637	0.063	0.1479	0.0038	0.0787	0.0017	976	24	888	21	1157	45	96
126.D	1.312	0.031	0.1303	0.0024	0.072	0.0016	849	14	790	13	989	46	96
125.D	0.811	0.021	0.0942	0.0014	0.0615	0.0015	601	12	580	8.4	657	54	96
124.D	1.305	0.032	0.1393	0.0027	0.0664	0.0016	844	14	840	15	832	51	96
123.D	1.186	0.029	0.1115	0.002	0.076	0.0018	792	13	681	11	1078	46	95

121.D	1.172	0.029	0.1216	0.0018	0.0686	0.0015	787	14	739	10	874	45	95
120.D	1.482	0.026	0.1519	0.0024	0.0698	0.00097	925	10	911	13	918	29	95
12.D	1.055	0.035	0.1162	0.0024	0.0661	0.0026	730	18	708	14	766	82	65
119.D	1.076	0.035	0.1179	0.0026	0.0662	0.002	739	17	718	15	805	65	95
118.D	0.885	0.032	0.0985	0.0021	0.0633	0.0025	642	17	605	13	699	87	95
117R.D	1.082	0.027	0.118	0.0025	0.0647	0.0016	744	13	719	14	782	50	94
116.D	1.258	0.056	0.1242	0.0038	0.0714	0.0019	822	25	756	22	977	55	94
115.D	1.347	0.094	0.1098	0.0031	0.0848	0.0045	842	40	673	18	1250	100	94
114.D	1.008	0.025	0.1085	0.002	0.0654	0.0014	706	13	664	12	793	45	93
113R.D	1.459	0.025	0.1487	0.0022	0.0701	0.0011	915	10	893	13	927	32	93
112.D	1.678	0.037	0.1522	0.0025	0.0772	0.0017	998	14	912	14	1130	45	93
111.D	1.299	0.031	0.1315	0.0022	0.0724	0.0016	845	14	796	12	980	46	93
110.D	1.793	0.051	0.163	0.0035	0.0788	0.0024	1042	19	973	19	1157	63	92
11.D	1.321	0.033	0.1371	0.0026	0.0703	0.0018	856	15	827	15	924	52	64
109.D	1.079	0.033	0.1176	0.0025	0.0667	0.0022	742	15	716	15	792	67	92
108.D	1.449	0.028	0.1517	0.0028	0.0687	0.0015	908	12	910	16	901	45	92
107.D	1.311	0.032	0.1399	0.0026	0.0676	0.0019	850	14	846	14	841	58	92
106.D	2.399	0.069	0.1973	0.0042	0.0879	0.0035	1247	22	1160	23	1392	74	92
105.D	1.236	0.036	0.1326	0.0029	0.0659	0.0017	815	16	802	16	806	54	92
104.D	1.367	0.03	0.1457	0.0027	0.0674	0.0016	876	13	876	15	843	49	92
103.D	1.217	0.025	0.1337	0.0026	0.0674	0.0018	811	12	810	15	841	54	92
102.D	1.408	0.034	0.1427	0.0026	0.07	0.0015	890	14	859	14	933	45	92
101.D	1.13	0.023	0.1203	0.002	0.067	0.0014	766	11	732	12	831	42	92
100.D	1.186	0.037	0.1295	0.0022	0.0663	0.002	791	17	784	12	830	64	91

10.D	1.025	0.038	0.1129	0.0029	0.0666	0.0023	713	19	689	17	811	70	63
stdGJ55.D	0.755	0.031	0.0956	0.0022	0.0571	0.0026	574	17	588	13	492	93	
stdGJ54.D	0.818	0.034	0.0963	0.0022	0.0615	0.0029	604	18	592	13	587	95	
stdGJ53.D	0.844	0.038	0.0993	0.0022	0.0612	0.0029	615	20	610	13	593	96	
stdGJ52.D	0.816	0.034	0.0978	0.002	0.0588	0.0024	603	18	601	12	555	84	
stdGJ51.D	0.8	0.035	0.0968	0.0025	0.0616	0.0028	589	20	595	15	602	92	
stdGJ50.D	0.788	0.033	0.0988	0.0022	0.0594	0.0027	589	19	607	13	514	95	
stdGJ49.D	0.828	0.04	0.0986	0.0024	0.061	0.0029	612	21	605	14	602	99	
stdGJ48.D	0.797	0.034	0.098	0.0023	0.0588	0.0025	594	19	603	13	527	92	
stdGJ47.D	0.785	0.029	0.0977	0.0023	0.0581	0.0022	585	16	600	13	542	82	
stdGJ46.D	0.816	0.03	0.0977	0.0024	0.0605	0.0024	600	17	600	14	582	84	
stdGJ45.D	0.823	0.036	0.0995	0.0023	0.0615	0.0028	610	19	611	14	603	97	
stdGJ44.D	0.823	0.033	0.0985	0.0024	0.0619	0.0027	609	17	605	14	638	89	
stdGJ43.D	0.796	0.04	0.096	0.0024	0.0594	0.0031	587	22	592	14	540	110	
stdGJ42.D	0.804	0.037	0.0951	0.0021	0.0618	0.0027	593	21	585	12	618	89	
stdGJ41.D	0.801	0.037	0.0972	0.0024	0.0595	0.0027	591	21	599	14	529	95	
stdGJ38.D	0.804	0.037	0.0949	0.0023	0.0611	0.0029	589	20	584	14	569	94	
stdGJ37.D	0.846	0.038	0.0969	0.0024	0.0626	0.0028	620	21	596	14	671	93	
stdGJ36.D	0.817	0.036	0.0991	0.0022	0.0599	0.0027	601	20	611	13	593	95	
stdGJ35.D	0.835	0.038	0.0989	0.002	0.0615	0.0031	619	20	608	12	610	100	
stdGJ33.D	0.786	0.037	0.0985	0.0025	0.0577	0.0026	585	20	606	14	456	91	
stdGJ32.D	0.825	0.033	0.0982	0.0023	0.0614	0.0027	608	19	603	14	627	96	
stdGJ30.D	0.847	0.032	0.1009	0.0024	0.0613	0.0025	622	18	620	14	642	84	

stdGJ27.D	0.809	0.036	0.0982	0.0024	0.0594	0.0029	596	20	603	14	538	99
stdGJ25.D	0.825	0.038	0.0989	0.0027	0.0609	0.0028	600	20	609	16	590	100
stdGJ24.D	0.803	0.039	0.0992	0.0025	0.059	0.0029	594	21	609	14	560	100
stdGJ22.D	0.854	0.034	0.101	0.0022	0.0616	0.0025	624	18	620	13	621	86
stdGJ21.D	0.849	0.037	0.0999	0.0021	0.0613	0.0027	616	20	613	12	589	94
stdGJ20.D	0.836	0.036	0.0982	0.0021	0.0614	0.0028	610	20	603	12	583	95
stdGJ18.D	0.776	0.036	0.099	0.0022	0.0573	0.0028	577	20	609	13	470	100
stdGJ16.D	0.762	0.031	0.0961	0.0021	0.0575	0.0023	575	18	591	12	513	84
stdGJ13.D	0.815	0.038	0.0965	0.0021	0.0619	0.0031	601	22	594	13	590	100
stdGJ12.D	0.795	0.032	0.0968	0.0022	0.0596	0.0026	588	18	596	13	544	90
PLS16.D	0.413	0.014	0.0547	0.001	0.054	0.0019	349	10	343.2	6.1	344	72
PLES24.D	0.382	0.013	0.05321	0.00099	0.0517	0.0019	326.9	9.5	334.1	6.1	261	75
PLES23.D	0.392	0.014	0.0524	0.0012	0.0538	0.002	335	10	328.8	7.3	344	79
PLES22.D	0.416	0.015	0.0541	0.0011	0.0547	0.0021	351	10	340.4	7	367	79
PLES21.D	0.405	0.014	0.05328	0.00098	0.055	0.0019	344	10	335	5.9	380	70
PLES20.D	0.401	0.015	0.0544	0.001	0.0523	0.0019	339	10	341.6	6.1	289	76
PLES19.D	0.404	0.014	0.0545	0.0011	0.0536	0.0019	343	10	341.8	6.5	317	72
PLES18.D	0.387	0.013	0.0522	0.001	0.0533	0.0017	331.6	9.3	327.7	6.1	331	68
PLES17.D	0.388	0.014	0.0526	0.001	0.0531	0.002	331	10	330.5	6.3	307	77
PLES15.D	0.385	0.012	0.0552	0.0011	0.0505	0.0017	329.3	8.2	346.1	6.9	215	67
PLES14.D	0.392	0.014	0.0539	0.0012	0.0528	0.002	333.7	9.8	338.5	7.2	291	78
PLES13.D	0.399	0.015	0.0561	0.0011	0.0506	0.0018	339	11	352	6.6	211	72
PLES12.D	0.392	0.013	0.053	0.001	0.0536	0.0017	334.4	9.2	333	6.4	335	68
PLES11.D	0.4	0.016	0.0546	0.0012	0.0541	0.0022	341	11	342.5	7.6	359	86

PLES10.D	0.406	0.017	0.0534	0.0012	0.0542	0.0023	343	12	335.4	7.2	338	84
PLES09.D	0.393	0.013	0.0537	0.001	0.0533	0.0018	334.6	9.4	337.4	6.4	317	72
PLES08.D	0.39	0.013	0.0519	0.0011	0.0548	0.002	334.6	9.3	326.1	6.8	391	74
PLES07.D	0.381	0.014	0.05158	0.00096	0.0534	0.0021	326	10	324.1	5.9	311	81
PLES06.D	0.396	0.014	0.0526	0.001	0.0552	0.0021	337.7	9.8	331.4	6.3	383	76
PLES05.D	0.373	0.014	0.05273	0.00095	0.0506	0.0019	320	10	331.2	5.8	200	74

Sample number	Pb^{207}/Pb^{206}	2σ	Pb^{207}/U^{235}	2σ	Pb^{206}/U^{238}	2σ	Age (Ma) Pb^{206}/U^{238}	2σ	Age (Ma) Pb^{207}/Pb^{206}	2σ	Age (Ma) pb^{207}/U^{235}	2σ	Concordance %	Th/U Ratio
Q8S1														
Q8C-065.D	0.0607	0.0037	0.663	0.035	0.0758	0.002	471	12	550	120	518	21	85.64	0.00956
Q8C-054.D	0.0564	0.0014	0.641	0.016	0.0783	0.0014	486	8.2	457	50	504	10	106.35	0.014327
Q8C-006.D	0.0569	0.0015	0.575	0.015	0.081	0.0015	501.8	8.7	488	57	462.3	9.5	102.83	0.008643
Q8C-050.D	0.0546	0.0012	0.669	0.016	0.0867	0.0014	535.9	8.5	400	47	518.7	9.5	133.98	0.022026
Q8C-034.D	0.0699	0.0012	1.009	0.022	0.1047	0.0017	641.4	9.7	925	35	707	11	69.34	0.083963
Q8C-021.D	0.0654	0.0022	0.988	0.028	0.1125	0.0023	687	13	764	71	695	14	89.92	0.106952
Q8C-046.D	0.0719	0.0017	1.149	0.026	0.1148	0.0019	700	11	964	49	780	12	72.61	0.286123

Q8C-060.D	0.0743	0.0025	1.334	0.044	0.1242	0.0029	754	16	1041	70	859	19	72.43	0.281294
Q8C-047.D	0.0783	0.0015	1.411	0.077	0.1259	0.0051	762	29	1146	39	882	32	66.49	0.04
Q8C-014.D	0.0798	0.0014	1.332	0.026	0.1318	0.0017	797.9	9.7	1186	35	860	11	67.28	0.157233
Q8C-052.D	0.0819	0.0017	1.637	0.054	0.1413	0.0044	852	25	1248	41	989	21	68.27	0.178891
Q8C-045.D	0.0831	0.0027	1.697	0.062	0.1437	0.0033	868	19	1273	65	1002	23	68.19	0.387597
Q8C-041.D	0.0837	0.0042	1.765	0.085	0.1507	0.0047	908	26	1261	97	1018	31	72.01	0.272109
Q8C-002.D	0.0797	0.0019	1.564	0.04	0.1544	0.0023	926	13	1176	44	950	15	78.74	0.248818
Q8C-024.D	0.0932	0.0017	2.008	0.059	0.1605	0.0048	958	27	1488	34	1111	20	64.38	0.381388
Q8C-009.D	0.0826	0.0027	1.969	0.048	0.1766	0.0033	1049	18	1417	34	1155	22	74.03	0.238834

Q8C-064.D	0.0898	0.0016	2.139	0.068	0.1769	0.0041	1049	23	1273	65	1103	16	82.40	0.294464
Q8C-032.D	0.0872	0.0022	2.165	0.055	0.1791	0.0037	1063	20	1366	51	1164	18	77.82	0.468165
Q8C-044.D	0.0779	0.0012	1.958	0.034	0.1802	0.0028	1067	15	1145	32	1102	11	93.19	0.203252
Q8C-033.D	0.0793	0.0028	1.976	0.058	0.1836	0.0042	1089	23	1150	72	1106	20	94.70	0.428633
Q8C-027.D	0.0799	0.0016	2.125	0.064	0.1861	0.0038	1099	21	1259	63	1121	17	87.29	0.391389
Q8C-030.D	0.084	0.0027	2.015	0.05	0.1862	0.0042	1099	23	1200	43	1156	20	91.58	0.397931
Q8C-038.D	0.08	0.0023	2.072	0.053	0.1863	0.0037	1104	20	1192	56	1135	18	92.62	0.675219
Q8C-055.D	0.1202	0.002	3.237	0.078	0.1876	0.0039	1107	21	1960	28	1463	18	56.48	0.384615
Q8C-061.D	0.0762	0.0017	2.085	0.047	0.19	0.0036	1120	19	1093	44	1146	15	102.47	0.450653

Q8C-039.D	0.0822	0.0026	2.154	0.063	0.192	0.0044	1133	23	1222	61	1163	20	92.72	0.813008
Q8C-026.D	0.0842	0.0053	2.2	0.12	0.1967	0.0053	1158	28	1130	110	1149	36	102.48	0.933707
Q8C-070.D	0.0957	0.002	2.779	0.073	0.197	0.0038	1162	21	1546	40	1348	20	75.16	0.164474
Q8C-063.D	0.0955	0.0018	2.822	0.075	0.1996	0.0046	1171	25	1532	35	1363	20	76.44	0.187793
Q8C-067.D	0.1149	0.0037	3.33	0.13	0.1997	0.0039	1172	21	1842	52	1474	27	63.63	0.059137
Q8C-025.D	0.0836	0.0035	2.232	0.081	0.2001	0.0047	1174	25	1268	82	1195	26	92.59	1.025641
Q8C-043.D	0.0956	0.0028	2.832	0.088	0.2105	0.0046	1232	24	1524	54	1360	23	80.84	0.434216
Q8C-036.D	0.0929	0.0028	2.772	0.082	0.2172	0.0048	1265	25	1473	59	1345	22	85.88	0.666223
Q8C-069.D	0.0964	0.002	3.19	0.065	0.2213	0.0033	1288	17	1552	39	1452	15	82.99	0.603865

Q8C-059.D	0.0881	0.0018	2.898	0.061	0.2259	0.004	1314	21	1374	41	1381	16	95.63	0.440141
Q8C-010.D	0.1016	0.0018	2.901	0.05	0.2275	0.0037	1320	19	1645	35	1381	13	80.24	0.474834
Q8C-031.D	0.0981	0.0017	3.07	0.053	0.2271	0.0033	1322	17	1588	33	1423	13	83.25	0.552792
Q8C-042.D	0.0861	0.0016	2.734	0.046	0.2291	0.0036	1331	19	1340	35	1337	13	99.33	0.49456
Q8C-048.D	0.0987	0.0019	3.176	0.074	0.2297	0.0041	1332	21	1594	37	1454	18	83.56	0.19802
Q8C-053.D	0.088	0.0022	2.937	0.073	0.2321	0.0051	1346	27	1388	48	1395	19	96.97	0.678426
Q8C-057.D	0.0914	0.0033	3.021	0.093	0.2326	0.0056	1349	29	1476	68	1411	24	91.40	0.555556
Q8C-012.D	0.0914	0.0019	2.741	0.062	0.2396	0.0036	1385	19	1450	40	1342	17	95.52	0.841043
Q8C-004.D	0.0892	0.002	2.748	0.071	0.2395	0.0047	1385	24	1424	44	1340	19	97.26	0.58548

Q8C-019.D	0.0925	0.002	2.867	0.058	0.2441	0.004	1407	21	1461	40	1373	14	96.30	0.694444
Q8C-037.D	0.1025	0.0019	3.462	0.075	0.2456	0.005	1414	26	1661	36	1519	17	85.13	0.370782
Q8C-016.D	0.0978	0.0021	3.069	0.078	0.246	0.0044	1419	23	1580	41	1423	19	89.81	0.431593
Q8C-049.D	0.0904	0.0015	3.165	0.058	0.2474	0.0039	1426	20	1444	32	1446	14	98.75	1.052632
Q8C-062.D	0.101	0.0017	3.602	0.067	0.2476	0.0038	1427	20	1638	31	1547	15	87.12	0.274801
Q8C-017.D	0.0913	0.0018	2.896	0.054	0.25	0.0036	1439	19	1441	37	1384	14	99.86	0.685871
Q8C-013.D	0.1014	0.0019	3.213	0.09	0.2511	0.0056	1447	29	1649	35	1464	22	87.75	0.160385
Q8C-029.D	0.093	0.0015	3.253	0.056	0.2532	0.0038	1456	19	1490	32	1468	13	97.72	0.56243
Q8C-068.D	0.0949	0.0026	3.614	0.096	0.2573	0.0052	1476	27	1533	52	1551	20	96.28	1.364815

Q8C-056.D	0.1035	0.0021	3.833	0.079	0.2572	0.0046	1478	24	1685	38	1596	17	87.72	0.372301
Q8C-018.D	0.0914	0.0017	3.045	0.053	0.2593	0.0037	1485	19	1454	36	1418	13	102.13	0.726744
Q8C-022.D	0.099	0.0022	3.522	0.076	0.2627	0.0047	1502	24	1604	42	1529	17	93.64	0.8726
Q8C-007.D	0.0917	0.002	3.05	0.057	0.2635	0.004	1506	20	1462	43	1418	15	103.01	0.259336
Q8C-020.D	0.0925	0.0018	3.212	0.063	0.2678	0.0041	1528	21	1496	38	1460	15	102.14	0.919118
Q8C-040.D	0.0985	0.0016	3.693	0.055	0.2688	0.0044	1538	22	1601	31	1571	12	96.06	0.495295
Q8C-058.D	0.1052	0.003	4.05	0.11	0.2739	0.0053	1561	26	1700	54	1643	22	91.82	0.897666
Q8C-051.D	0.1028	0.0022	3.962	0.079	0.2758	0.0047	1568	24	1676	39	1627	16	93.56	0.770416
Q8C-008.D	0.1052	0.0021	3.647	0.073	0.2759	0.0042	1569	21	1710	38	1558	16	91.75	0.340483

Q8C-003.D	0.0978	0.0024	3.508	0.073	0.2827	0.0059	1602	29	1576	47	1527	16	101.65	0.706215
Q8C-015.D	0.1032	0.0046	3.74	0.15	0.2838	0.0074	1610	37	1686	87	1580	35	95.49	0.389864
Q8C-011.D	0.103	0.0029	3.677	0.095	0.2853	0.0061	1615	30	1683	53	1568	20	95.96	0.55991
Q8C-023.D	0.1086	0.002	4.388	0.088	0.3003	0.0048	1695	24	1771	33	1710	16	95.71	0.298507
Q8C-066.D	0.107	0.0023	4.835	0.096	0.3041	0.0055	1709	27	1759	38	1787	17	97.16	0.141443
Q8C-028.D	0.1419	0.0024	6.11	0.12	0.3136	0.0051	1759	25	2245	29	1989	16	78.35	0.241546
Q8C-005.D	0.1092	0.0025	4.555	0.098	0.3287	0.0064	1829	31	1788	42	1742	17	102.29	0.429
Q8C-001.D	0.1593	0.0055	8.82	0.27	0.441	0.01	2349	45	2403	59	2305	28	97.75	0.563063
Q8C-035.D	0.2199	0.0023	15.77	0.2	0.5204	0.0074	2698	32	2978	16	2866	12	90.60	0.601323

stdGJ009.D	0.0537	0.002	0.791	0.031	0.0977	0.0021	600	12	616	87	333	10	97.40	0.032216
stdGJ010.D	0.0551	0.0029	0.768	0.03	0.0984	0.0022	605	13	556	92	326	14	108.81	0.031576
stdGJ011.D	0.0541	0.003	0.778	0.035	0.0983	0.0021	606	12	622	85	339	16	97.43	0.032289
stdGJ017.D	0.0567	0.0027	0.765	0.028	0.0985	0.0022	605	13	533	87	337	13	113.51	0.031338
stdGJ018.D	0.0557	0.0029	0.756	0.035	0.0976	0.0024	602	14	529	96	351	15	113.80	0.031969
stdGJ019.D	0.0569	0.002	0.793	0.038	0.0985	0.0023	605	14	593	98	357	11	102.02	0.031586
stdGJ021.D	0.0533	0.0023	0.793	0.036	0.0988	0.0023	608	13	524	99	324	12	116.03	0.03427
stdGJ022.D	0.0537	0.0024	0.811	0.04	0.0978	0.0024	601	14	550	100	338	13	109.27	0.033102
stdGJ024.D	0.0583	0.0023	0.739	0.034	0.0957	0.0023	589	13	440	100	341	11	133.86	0.032206

stdGJ025.D	0.0583	0.0025	0.81	0.038	0.0957	0.0024	588	14	610	97	342	11	96.39	0.032744
stdGJ026.D	0.0541	0.0027	0.819	0.037	0.0989	0.0023	608	13	518	88	313	13	117.37	0.033047
stdGJ027.D	0.062	0.0026	0.821	0.037	0.0981	0.0023	602	13	571	97	590	18	105.43	0.032425
stdGJ028.D	0.0598	0.0027	0.904	0.059	0.0991	0.0021	609	12	510	100	574	17	119.41	0.033223
stdGJ029.D	0.0609	0.0026	0.913	0.037	0.1002	0.0021	618	12	607	90	580	19	101.81	0.035663
stdGJ03.D	0.059	0.0025	0.867	0.03	0.0966	0.0019	594	11	561	80	579	16	105.88	0.033898
stdGJ030.D	0.0595	0.0028	0.884	0.037	0.0966	0.0025	595	15	655	94	569	20	90.84	0.033647
stdGJ032.D	0.0611	0.003	0.879	0.04	0.098	0.0023	602	14	617	93	584	20	97.57	0.033047
stdGJ06.D	0.0586	0.0028	0.828	0.034	0.0956	0.0023	588	13	614	90	585	20	95.77	0.032723

stdGJ08.D	0.0607	0.0031	0.806	0.039	0.0959	0.0018	590	11	570	100	596	22	103.51	0.032113
stdGJ12.D	0.0568	0.0028	0.761	0.029	0.0984	0.0021	605	12	580	88	558	20	104.31	0.032144
stdGJ13.D	0.061	0.0028	0.776	0.031	0.0976	0.0023	601	14	600	92	600	21	100.17	0.032884
stdGJ14.D	0.0591	0.0025	0.771	0.031	0.096	0.0026	590	15	645	89	601	20	91.47	0.031696
stdGJ15.D	0.062	0.003	0.748	0.034	0.1002	0.0024	615	14	497	91	600	20	123.74	0.031066
stdGJ16.D	0.0616	0.0037	0.794	0.035	0.0982	0.0023	605	13	651	89	632	27	92.93	0.03127
PLES004.D	0.0614	0.0026	0.393	0.015	0.0556	0.001	348.9	6.3	338	77	651	20	103.22	0.105075
PLES008.D	0.0597	0.0022	0.384	0.02	0.0525	0.0013	329.9	8	350	100	632	16	94.26	0.082645
PLES009.D	0.063	0.0029	0.406	0.022	0.0543	0.0012	340.6	7.4	300	110	635	20	113.53	0.06854

PLES01.D	0.0613	0.0029	0.399	0.018	0.0525	0.0011	329.8	6.8	433	92	634	21	76.17	0.082919
PLES010.D	0.0622	0.0028	0.424	0.024	0.0546	0.0013	343.4	7.7	361	94	605	18	95.12	0.083472
PLES012.D	0.0625	0.0037	0.425	0.016	0.0539	0.0011	338.5	7	450	74	591	21	75.22	0.10627
PLES02.D	0.0596	0.0025	0.38	0.017	0.0534	0.0013	335	7.7	293	87	571	17	114.33	0.067705
PLES03.D	0.0611	0.0026	0.399	0.018	0.0555	0.0012	348.1	7.4	334	88	584	18	104.22	0.083126
PLES05.D	0.0629	0.0027	0.402	0.016	0.0527	0.001	331	6.2	485	80	574	18	68.25	0.102459
PLES06.D	0.058	0.0026	0.404	0.016	0.0531	0.0011	334.1	6.9	478	85	565	19	69.90	0.093897
PLES07.D	0.0627	0.0028	0.366	0.018	0.0512	0.0011	321.7	7	322	96	588	19	99.91	0.084104

Sample Number	Pb^{207}/U^{235}	2σ	Pb^{206}/U^{238}	2σ	Pb^{207}/Pb^{206}	2σ	Age (Ma) Pb^{276}/U^{258}	2σ	Age (Ma) Pb^{207}/Pb^{356}	2σ	FinalAge207_206	2σ	Concordance %	Th/U
Q26S2														
1.D	1.42	0.042	0.1358	0.0032	0.0762	0.0025	894	18	820	18	1082	67	76	0.903342
10.D	1.676	0.041	0.1605	0.0031	0.0745	0.0017	997	16	961	17	1050	46	92	0.297708
100.D	0.903	0.021	0.1113	0.0018	0.0638	0.0014	652	11	680	10	729	47	93	0.191681
101R.D	1.122	0.02	0.1324	0.0023	0.0659	0.0011	762.3	9.6	801	13	796	36	101	0.021368
102.D	1.076	0.026	0.1217	0.0029	0.0676	0.0017	738	13	740	16	852	51	87	0.265111
103.D	1.301	0.039	0.1486	0.0031	0.0673	0.0022	846	16	894	17	824	63	108	0.294985
104.D	1.431	0.033	0.1678	0.0034	0.0677	0.0015	908	14	999	19	846	47	118	0.064226
105.D	2.03	0.11	0.1682	0.0045	0.0864	0.0029	1106	36	1001	25	1323	66	76	0.208768
106.D	1.997	0.044	0.1749	0.0031	0.0786	0.0016	1111	15	1040	17	1172	42	89	0.035211
107R.D	1.506	0.037	0.158	0.003	0.067	0.0016	932	15	945	17	866	49	109	0.086059
108.D	1.869	0.042	0.171	0.0035	0.0746	0.0013	1068	15	1017	19	1060	36	96	0.179533
109.D	1.32	0.044	0.1352	0.0028	0.0675	0.0021	857	20	817	16	831	67	98	0.372024
110.D	1.481	0.061	0.0814	0.0025	0.1251	0.0062	911	24	504	15	1933	85	26	3.08642
111R.D	1.189	0.03	0.1208	0.0024	0.066	0.0015	798	14	736	14	795	50	93	0.050454
112.D	3.623	0.099	0.2435	0.0049	0.0991	0.002	1552	21	1406	25	1608	38	87	0.376364
113R.D	1.09	0.026	0.1063	0.0021	0.0673	0.0011	747	13	653	13	849	32	77	0.210526

114R.D	1.34	0.034	0.1309	0.0028	0.0689	0.0014	859	15	792	16	887	45	89	0.591716
115.D	1.416	0.028	0.1354	0.0026	0.0711	0.0011	902	12	819	15	948	33	86	0.409836
116.D	0.955	0.035	0.1003	0.0026	0.0636	0.0023	678	19	615	15	700	79	88	0.135135
117.D	1.774	0.044	0.1556	0.0035	0.0756	0.0018	1033	16	933	20	1088	47	86	0.158278
118.D	1.544	0.03	0.1482	0.0029	0.0693	0.0012	949	12	890	16	914	35	97	0.249377
119.D	1.338	0.043	0.1328	0.0028	0.0676	0.0019	857	19	803	16	841	61	95	0.387597
11R.D	0.979	0.025	0.1094	0.0021	0.0661	0.0018	691	12	669	12	825	57	81	0.182815
12.D	1.342	0.027	0.1444	0.0024	0.066	0.0014	862	12	871	14	795	44	110	0.172712
120.D	1.489	0.048	0.1441	0.003	0.0688	0.0021	924	19	867	17	883	60	98	0.191571
121R.D	1.555	0.03	0.1496	0.0028	0.0685	0.0013	950	12	899	16	883	40	102	0.102775
122.D	2.19	0.1	0.1771	0.0054	0.0853	0.003	1170	34	1048	29	1314	69	80	0.247586
123R.D	1.583	0.027	0.154	0.0026	0.0698	0.0013	965	10	925	15	919	36	101	0.052138
124.D	1.469	0.037	0.1456	0.003	0.0684	0.0017	915	15	875	17	879	52	100	0.181488
125.D	0.986	0.038	0.1032	0.0025	0.0652	0.0027	696	20	633	14	739	82	86	0.210526
126R.D	1.169	0.029	0.1216	0.0021	0.0654	0.0016	788	14	741	12	786	49	94	0.067295
127R.D	1.363	0.027	0.1388	0.0021	0.0677	0.0012	874	11	838	12	869	36	96	0.065232
128.D	1.088	0.034	0.1102	0.0026	0.0684	0.002	744	16	673	15	857	59	79	0.246548
129R.D	1.021	0.03	0.1096	0.0021	0.0644	0.0018	714	15	670	12	737	62	91	0.077882
13.D	1.453	0.027	0.157	0.0029	0.0675	0.0014	915	11	941	16	848	43	111	0.079051

130.D	2.156	0.045	0.165	0.0028	0.0911	0.002	1163	14	984	16	1435	41	69	0.470588
131R.D	1.166	0.034	0.1243	0.0025	0.0649	0.002	782	16	755	15	784	63	96	0.164799
132.D	1.312	0.04	0.1191	0.0027	0.0761	0.0019	852	18	725	16	1104	50	66	1.536098
133R.D	1.398	0.034	0.1446	0.0026	0.0669	0.0016	887	14	871	15	833	51	105	0.118765
134.D	1.501	0.05	0.1356	0.0033	0.0786	0.0022	929	19	820	18	1160	59	71	0.271003
135R.D	1.518	0.039	0.1557	0.0032	0.0689	0.0018	936	16	932	18	890	53	105	0.161031
136.D	1.394	0.057	0.1472	0.0037	0.0675	0.0028	886	25	886	21	818	86	108	0.557414
137.D	2.92	0.1	0.2299	0.0061	0.0888	0.0031	1378	26	1334	32	1391	69	96	0.649351
138.D	1.615	0.045	0.1562	0.0032	0.0732	0.0021	976	18	934	18	1025	58	91	0.342349
139.D	1.849	0.046	0.1359	0.003	0.0951	0.0021	1061	16	821	17	1523	41	54	0.201207
14.D	2.38	0.044	0.196	0.0037	0.0858	0.0015	1237	13	1153	20	1332	34	87	0.959693
140.D	1.027	0.033	0.1101	0.0027	0.0646	0.0024	714	17	673	16	758	78	89	0.359066
141R.D	1.646	0.029	0.1617	0.0026	0.0729	0.0012	988	11	965	15	1015	33	95	0.234192
142.D	1.084	0.025	0.1179	0.0025	0.0657	0.0011	746	12	718	14	801	36	90	0.15949
143.D	1.504	0.031	0.1482	0.0027	0.0729	0.0016	934	12	890	15	1020	43	87	0.161551
144.D	1.364	0.034	0.1351	0.0027	0.0736	0.0017	871	15	816	15	1013	48	81	0.330688
145.D	1.46	0.052	0.1139	0.0034	0.0933	0.0036	907	22	698	19	1484	77	47	1.367989
146R.D	1.238	0.022	0.1321	0.0025	0.0687	0.0011	818	10	799	14	878	33	91	0.239808
147.D	1.141	0.035	0.1295	0.0027	0.0647	0.0021	774	16	784	15	744	66	105	0.266454

148R.D	1.437	0.029	0.148	0.0025	0.071	0.0013	902	12	892	14	947	39	94	0.369004
149.D	1.106	0.039	0.1237	0.0028	0.0656	0.0025	758	19	753	16	727	83	104	0.516796
150.D	1.322	0.03	0.1392	0.0026	0.0675	0.0015	857	13	839	15	853	46	98	0.848896
151R.D	1.444	0.029	0.1348	0.0028	0.0766	0.0015	909	12	814	16	1113	39	73	2.192982
152.D	1.104	0.025	0.1194	0.0021	0.0661	0.0015	755	12	728	12	790	48	92	0.289268
153.D	1.5	0.032	0.1583	0.0034	0.0681	0.0013	936	13	948	19	862	39	110	0.054348
154.D	1.452	0.044	0.1503	0.003	0.0696	0.0021	909	19	903	17	898	63	101	0.209205
155R.D	1.208	0.029	0.1256	0.0022	0.0679	0.0014	802	14	765	13	863	46	89	0.061013
156.D	1.265	0.036	0.1316	0.0028	0.0693	0.0018	830	16	798	16	909	51	88	0.257998
157.D	1.44	0.029	0.1133	0.003	0.0909	0.0026	906	12	693	17	1428	52	49	3.921569
158.D	1.833	0.047	0.1627	0.0034	0.0798	0.0021	1058	17	972	19	1196	52	81	0.326052
159.D	1.186	0.04	0.1276	0.0031	0.0655	0.0022	795	19	773	18	765	70	101	0.222222
15R.D	1.357	0.03	0.1438	0.003	0.0673	0.0013	870	13	868	17	846	41	103	0.118064
16.D	1.63	0.05	0.1539	0.0029	0.0762	0.0021	985	19	922	16	1083	55	85	0.37594
160R.D	1.475	0.025	0.152	0.0025	0.0684	0.0011	920	10	913	14	880	31	104	0.048876
161R.D	1.43	0.037	0.1424	0.0024	0.0721	0.0018	900	16	859	14	965	52	89	0.089047
162.D	1.288	0.03	0.1267	0.0025	0.0729	0.0018	839	14	770	14	1000	50	77	0.157159
163.D	1.417	0.025	0.1488	0.0027	0.0685	0.0012	895	11	894	15	895	37	100	0.090744
164.D	1.216	0.037	0.1302	0.0027	0.0667	0.0019	806	17	788	15	822	61	96	0.114548

165.D	1.378	0.053	0.1435	0.0038	0.0684	0.0029	879	23	865	21	868	90	100	0.367107
166.D	1.623	0.057	0.1565	0.0035	0.0734	0.0017	978	22	936	20	1026	48	91	0.10846
167.D	2.842	0.055	0.2311	0.0039	0.0879	0.0014	1365	14	1341	21	1381	30	97	0.515198
168.D	1.351	0.038	0.145	0.003	0.0666	0.0019	866	17	873	17	815	59	107	0.392157
169.D	2.904	0.068	0.2344	0.0043	0.0893	0.0017	1382	17	1356	23	1414	35	96	0.250501
170.D	2	0.11	0.1813	0.0063	0.0776	0.0029	1103	39	1076	34	1145	76	94	0.3861
171.D	0.99	0.026	0.1096	0.0024	0.0646	0.0017	696	13	670	14	725	56	92	0.1221
172R.D	1.069	0.022	0.1187	0.0018	0.0641	0.0011	738	11	723	10	743	35	97	0.029002
173.D	1.386	0.025	0.143	0.0024	0.0684	0.001	884	10	861	14	874	32	99	0.11655
174.D	2.519	0.071	0.2081	0.005	0.0863	0.002	1284	20	1217	26	1339	47	91	0.411523
175.D	1.267	0.045	0.1338	0.0031	0.069	0.0025	831	20	810	17	851	77	95	0.14245
176.D	1.003	0.028	0.1101	0.0024	0.0645	0.0017	707	14	673	14	754	58	89	0.209644
177.D	1.263	0.031	0.1361	0.0032	0.0653	0.002	827	14	822	18	789	64	104	0.078493
178.D	1.359	0.051	0.141	0.0039	0.0695	0.003	871	22	851	22	879	87	97	0.230415
179.D	1.213	0.043	0.1294	0.0031	0.0664	0.0024	807	20	783	18	797	78	98	0.106724
17R.D	1.327	0.034	0.1383	0.0027	0.0676	0.0015	856	15	835	15	856	47	98	0.110988
18.D	2.088	0.043	0.1863	0.0032	0.0836	0.0016	1145	14	1104	18	1287	37	86	0.274499
180.D	1.455	0.037	0.1551	0.003	0.0694	0.002	914	15	929	16	876	59	106	0.16835
181.D	1.369	0.032	0.1549	0.0034	0.0664	0.0013	878	14	927	19	821	43	113	0.085251

182.D	0.882	0.032	0.1065	0.0026	0.0623	0.0023	646	17	653	15	655	78	100	0.136054
183R.D	1.331	0.02	0.1477	0.0022	0.06704	0.00097	859.7	8.7	889	12	839	31	106	0.020747
184.D	1.198	0.023	0.1172	0.0019	0.0716	0.0013	800	11	715	11	978	38	73	0.515464
185.D	1.173	0.042	0.1365	0.0034	0.0643	0.0024	782	20	824	19	751	76	110	0.13947
186.D	1.056	0.022	0.1232	0.0022	0.0639	0.0014	733	11	750	13	723	47	104	0.492611
187.D	1.234	0.043	0.1365	0.0032	0.0668	0.0023	813	20	824	18	819	67	101	0.13947
188.D	1.152	0.04	0.1246	0.0031	0.0668	0.0022	777	19	759	18	861	67	88	0.120627
189R.D	1.163	0.025	0.132	0.0024	0.0651	0.0014	784	12	799	14	770	45	104	0.039872
19.D	2.425	0.07	0.181	0.0035	0.0902	0.0016	1246	21	1073	19	1417	33	76	1.594896
190.D	25.8	4.9	0.314	0.042	0.377	0.046	2410	250	1710	200	2980	280	57	0.475964
191R.D	1.35	0.03	0.1406	0.0026	0.0695	0.0017	869	13	847	15	912	50	93	0.263505
192.D	1.433	0.038	0.1248	0.0025	0.082	0.0022	902	16	759	15	1269	55	60	1.43472
193R.D	1.525	0.029	0.135	0.0031	0.0796	0.0024	940	12	817	18	1168	61	70	0.892857
194.D	1.342	0.034	0.1412	0.0027	0.0674	0.0018	868	15	851	15	852	55	100	0.133869
195.D	1.189	0.023	0.1172	0.0025	0.0709	0.0016	793	11	714	14	961	47	74	1.769912
196.D	1.389	0.032	0.1454	0.0026	0.067	0.0016	886	14	876	14	822	49	107	0.162602
197.D	1.189	0.032	0.1259	0.0028	0.0672	0.0017	796	15	766	16	819	54	94	0.243309
198.D	1.452	0.03	0.1449	0.0028	0.0686	0.0015	908	12	873	16	894	46	98	0.089366
199.D	1.322	0.026	0.1345	0.0023	0.0675	0.0013	856	11	813	13	841	40	97	0.017544

2.D	1.393	0.031	0.148	0.0026	0.0687	0.0016	884	13	891	15	878	49	101	0.098425
200.D	1.8	0.04	0.1391	0.0027	0.0908	0.0019	1046	14	840	15	1436	40	58	0.281928
201.D	0.994	0.038	0.1016	0.0024	0.0659	0.0019	704	19	623	14	803	56	78	0.280899
202.D	1.329	0.059	0.1246	0.0039	0.0735	0.0018	855	27	757	23	1014	51	75	0.068493
203.D	1.283	0.034	0.13	0.0027	0.0664	0.0017	838	15	788	15	800	52	99	0.12987
204.D	1.006	0.041	0.0927	0.0024	0.0719	0.0025	703	21	571	14	964	70	59	0.201613
205.D	2.42	0.12	0.1704	0.0059	0.0971	0.0029	1254	36	1014	33	1546	57	66	0.22686
206R.D	1.108	0.032	0.1111	0.0025	0.066	0.0017	756	15	678	15	819	55	83	0.087566
207.D	1.426	0.037	0.1351	0.0024	0.0713	0.0018	900	15	818	14	948	54	86	0.384615
208.D	1.812	0.056	0.1616	0.0043	0.0767	0.0025	1048	20	966	23	1084	66	89	0.66357
209R.D	1.981	0.061	0.1784	0.0044	0.0762	0.0027	1114	21	1057	24	1085	71	97	0.672948
20R.D	1.035	0.031	0.1092	0.0021	0.0636	0.0022	719	15	668	12	721	70	93	0.219877
21.D	1.204	0.03	0.119	0.0024	0.0687	0.0019	801	14	725	13	891	55	81	0.408163
210.D	0.933	0.028	0.1059	0.0024	0.0612	0.002	668	15	649	14	615	69	106	0.175439
211.D	1.113	0.042	0.1236	0.0034	0.0645	0.0022	766	20	752	19	726	74	104	0.156986
212.D	1.424	0.029	0.1496	0.0024	0.0676	0.0014	897	12	898	14	850	41	106	0.103842
213.D	1.462	0.035	0.1568	0.0031	0.0673	0.0018	919	15	938	17	836	54	112	0.065876
214.D	1.189	0.03	0.127	0.0027	0.0657	0.0017	793	14	770	15	807	56	95	0.060606
215.D	1.351	0.033	0.1438	0.003	0.068	0.0015	870	15	865	17	869	44	100	0.089928

216.D	1.361	0.034	0.1443	0.0028	0.0671	0.0016	874	15	868	15	846	48	103	0.123762
217.D	1.285	0.03	0.1396	0.0026	0.0665	0.0016	838	13	842	15	797	50	106	0.032468
218.D	1.126	0.032	0.1202	0.0025	0.0664	0.0017	768	15	734	14	819	52	90	0.120627
219.D	1.462	0.036	0.1557	0.0032	0.0666	0.0016	912	15	932	18	825	51	113	0.091743
220.D	1.462	0.031	0.158	0.0029	0.0661	0.0013	916	13	946	16	813	44	116	0.040323
221.D	1.04	0.032	0.1156	0.0026	0.0642	0.0021	724	16	707	15	723	70	98	0.118203
222.D	0.991	0.062	0.1132	0.0056	0.0613	0.0017	684	33	690	33	654	57	106	0.014493
223.D	1.4	0.034	0.1482	0.0034	0.0672	0.0016	885	15	890	19	841	50	106	0.078493
224.D	1.218	0.039	0.135	0.0036	0.0646	0.0015	811	18	815	21	748	46	109	0.036364
225.D	1.532	0.035	0.1597	0.0028	0.0685	0.0017	941	14	954	16	885	50	108	0.190476
226R.D	1.235	0.027	0.1348	0.0027	0.0666	0.0014	815	12	815	15	828	44	98	0.0819
227.D	1.188	0.036	0.1216	0.0026	0.0713	0.002	799	17	741	15	977	55	76	0.139082
228.D	1.221	0.041	0.1287	0.0039	0.0683	0.0018	809	19	783	22	862	55	91	0.086957
229.D	1.352	0.041	0.151	0.0032	0.0657	0.002	868	17	905	18	791	62	114	0.065062
22R.D	1.445	0.025	0.1426	0.0025	0.068	0.001	907	10	860	14	860	31	100	0.204499
23.D	0.4822	0.0071	0.06221	0.00096	0.05464	0.00068	399.6	4.8	389	5.8	402	28	97	6.119951
230.D	1.442	0.035	0.157	0.0034	0.0677	0.0016	907	15	939	19	858	51	109	0.037147
231.D	1.115	0.041	0.1326	0.0034	0.0643	0.0025	757	20	803	19	717	79	112	0.151057
232.D	1.491	0.027	0.1651	0.0031	0.0671	0.0015	926	11	986	17	822	47	120	0.088028

233.D	0.592	0.023	0.0792	0.0018	0.0548	0.0022	470	15	491	11	423	85	116	0.051493
234.D	1.968	0.078	0.1877	0.0048	0.0782	0.0023	1098	27	1107	26	1123	61	99	0.347947
235.D	1.27	0.035	0.1453	0.0026	0.0657	0.002	829	16	875	15	773	64	113	0.294985
236.D	2.1	0.087	0.1933	0.0052	0.0789	0.0021	1144	29	1137	28	1159	52	98	0.462963
237.D	1.439	0.034	0.1579	0.0029	0.0668	0.0016	907	14	944	16	831	52	114	0.15083
238.D	1.186	0.029	0.1085	0.0022	0.0748	0.0014	792	14	663	13	1063	38	62	0.302115
239R.D	1.259	0.031	0.1431	0.003	0.0662	0.0017	832	14	863	17	789	55	109	0.235183
24.D	1.001	0.025	0.0955	0.0018	0.0708	0.0017	705	12	588	11	937	49	63	0.967118
240.D	1.342	0.039	0.1448	0.003	0.0677	0.002	860	17	874	17	858	61	102	0.349895
241R.D	1.37	0.027	0.1411	0.0027	0.0718	0.0013	874	12	852	16	974	36	87	1.082251
242.D	1.295	0.037	0.1418	0.0028	0.0669	0.0016	842	16	856	16	854	48	100	0.15083
243.D	1.141	0.039	0.1284	0.0031	0.0674	0.0024	773	19	778	18	812	74	96	0.079554
244.D	1.323	0.036	0.1427	0.0029	0.0678	0.0019	856	16	859	17	851	58	101	0.064641
245.D	1.182	0.038	0.1346	0.0031	0.0657	0.002	794	18	815	18	772	63	106	0.195695
246.D	1.317	0.038	0.1412	0.0027	0.0681	0.002	852	17	851	15	844	62	101	0.378644
247.D	1.103	0.034	0.1165	0.004	0.0687	0.0011	753	16	711	24	882	33	81	0.047125
248R.D	1.76	0.045	0.1369	0.0027	0.0937	0.0021	1031	16	828	15	1509	43	55	0.065746
249.D	2.908	0.065	0.2321	0.0051	0.0931	0.0024	1385	17	1343	26	1484	48	90	0.773395
25.D	1.149	0.025	0.1173	0.0023	0.0671	0.0015	776	12	716	13	840	49	85	0.159847

250R.D	1.367	0.041	0.1469	0.0032	0.0671	0.002	869	18	882	18	846	63	104	0.172117
251.D	1.02	0.029	0.1112	0.0024	0.0653	0.0016	714	15	682	14	780	53	87	0.037453
252.D	1.413	0.04	0.146	0.0033	0.0701	0.0019	895	17	879	19	916	55	96	0.072046
253.D	1.338	0.038	0.1414	0.0036	0.0686	0.0017	864	17	851	20	873	56	97	0.140252
254R.D	0.888	0.015	0.0891	0.0016	0.07055	0.00098	646.7	8.4	552	9.8	943	28	59	0.125786
255.D	1.335	0.039	0.1397	0.0033	0.0678	0.0019	857	17	845	19	848	60	100	0.169779
26.D	1.164	0.021	0.1199	0.0022	0.0661	0.0011	783	9.8	730	12	802	34	91	0.341064
27.D	3.548	0.052	0.2672	0.0043	0.0935	0.0013	1539	12	1527	22	1497	26	102	1.167406
28.D	1.592	0.043	0.1491	0.0027	0.0715	0.0021	963	17	897	15	966	59	93	0.448029
29.D	1.964	0.037	0.1577	0.0027	0.0847	0.0017	1102	13	943	15	1296	38	73	0.729927
3.D	0.974	0.026	0.114	0.0021	0.0652	0.0017	690	13	696	12	786	55	89	0.164989
30R.D	1.093	0.029	0.1151	0.0022	0.0655	0.0017	750	14	702	13	797	54	88	0.08058
31R.D	1.527	0.046	0.145	0.0028	0.0698	0.0019	942	18	872	16	938	58	93	0.361664
32.D	1.359	0.023	0.1362	0.0022	0.067	0.0012	871	10	823	12	834	38	99	0.080645
33.D	1.389	0.035	0.1321	0.0024	0.0712	0.0019	884	15	801	14	946	54	85	0.152672
34.D	1.355	0.024	0.1332	0.0021	0.0686	0.0012	870	10	806	12	885	38	91	0.094607
35.D	1.303	0.03	0.1265	0.0025	0.0698	0.0018	845	13	767	14	904	51	85	0.342466
36.D	3.11	0.065	0.2188	0.0048	0.0976	0.0022	1434	16	1274	25	1582	42	81	0.332005
37.D	2.969	0.098	0.1821	0.0052	0.1132	0.0024	1396	25	1078	28	1834	40	59	0.198807

38.D	2.46	0.057	0.2073	0.0041	0.0843	0.0022	1260	17	1213	22	1285	50	94	0.426439
39.D	1.164	0.04	0.1234	0.0024	0.0693	0.0023	784	19	750	14	872	70	86	0.227066
4.D	0.851	0.021	0.0965	0.0024	0.0635	0.0014	626	12	594	14	719	49	83	0.251383
40.D	1.215	0.031	0.1227	0.0031	0.0679	0.0019	805	14	745	18	860	59	87	0.116279
41R.D	1.263	0.016	0.1254	0.0022	0.0698	0.001	829	7.2	761	12	917	29	83	0.04065
42.D	1.581	0.04	0.1434	0.0025	0.0783	0.002	959	16	863	14	1150	51	75	0.254388
43.D	2.078	0.056	0.1852	0.0042	0.0819	0.0024	1147	19	1096	23	1238	57	89	0.394166
44.D	1.411	0.093	0.1181	0.0031	0.0781	0.0034	871	38	719	18	1149	90	63	0.200401
45.D	1.167	0.033	0.1197	0.0022	0.0671	0.0018	782	15	730	13	865	53	84	0.064061
46.D	1.282	0.039	0.1154	0.0021	0.0775	0.0022	835	18	705	12	1141	56	62	0.476644
47.D	0.892	0.019	0.0977	0.0018	0.0647	0.0016	648	10	601	10	737	54	82	0.155039
48R.D	1.437	0.023	0.1437	0.0025	0.0693	0.0011	903.5	9.5	866	14	901	33	96	0.050176
49.D	1.132	0.038	0.1207	0.0025	0.0665	0.0024	769	18	734	15	789	76	93	0.30349
50.D	1.569	0.031	0.151	0.0024	0.0742	0.0015	958	12	908	14	1033	42	88	0.349773
51R.D	0.813	0.023	0.0985	0.0021	0.0602	0.0019	602	13	607	13	598	65	102	0.183722
52.D	0.9	0.027	0.0958	0.0022	0.0672	0.0022	651	15	589	13	824	67	71	0.561798
53.D	0.982	0.027	0.1096	0.0022	0.0636	0.0021	694	13	670	12	711	71	94	0.158228
54.D	3.71	0.1	0.2095	0.0035	0.1239	0.0027	1575	22	1229	18	2009	38	61	0.408831
55R.D	1.401	0.02	0.1401	0.0029	0.07128	0.00089	890.3	8.6	844	17	967	26	87	2.314815

56.D	1.032	0.023	0.1148	0.002	0.0637	0.0014	722	11	701	11	738	46	95	0.138313
57.D	2.93	0.08	0.1931	0.0042	0.1065	0.0027	1391	21	1137	22	1739	47	65	0.31746
58.D	0.774	0.028	0.0943	0.0021	0.0614	0.0025	583	15	580	12	618	84	94	0.1287
59.D	1.628	0.031	0.1407	0.0025	0.0823	0.0018	981	12	848	14	1238	42	68	0.47824
5R.D	1.303	0.031	0.1418	0.0025	0.0681	0.0017	844	13	856	14	883	50	97	0.124378
6.D	0.812	0.026	0.0976	0.0025	0.0619	0.0019	606	15	601	15	642	66	94	0.372439
60.D	1.386	0.029	0.1403	0.0025	0.0697	0.0013	881	12	846	14	912	39	93	0.817661
61.D	0.966	0.026	0.1056	0.002	0.0635	0.0019	684	14	648	12	720	65	90	0.282725
62.D	1.367	0.023	0.1411	0.0025	0.0677	0.0013	874	10	850	14	859	38	99	0.525762
63.D	4.48	0.14	0.2426	0.0064	0.1304	0.0023	1722	26	1397	33	2095	32	67	0.550358
64.D	1.373	0.03	0.1398	0.0029	0.0684	0.0014	876	13	843	17	888	44	95	0.334784
65.D	1.314	0.051	0.1327	0.0032	0.0684	0.0029	846	23	804	18	870	87	92	0.561482
66.D	1.226	0.036	0.1214	0.0028	0.0695	0.0021	809	16	738	16	902	62	82	0.831255
67R.D	1.288	0.03	0.1301	0.0029	0.0694	0.0019	839	13	791	16	913	56	87	0.746269
68.D	1.024	0.029	0.1076	0.0022	0.0647	0.0017	715	15	658	13	782	52	84	0.148368
69.D	2.13	0.05	0.1508	0.0025	0.0969	0.0018	1158	16	905	14	1562	36	58	0.292826
7.D	1.702	0.036	0.1622	0.0034	0.0759	0.0014	1008	14	970	19	1090	36	89	0.181818
70.D	1.47	0.045	0.1359	0.0031	0.0759	0.0023	920	18	821	18	1077	61	76	0.342818
71.D	1.149	0.035	0.1208	0.0022	0.0677	0.0016	775	17	736	13	878	50	84	0.149031

72.D	1.395	0.031	0.1407	0.0027	0.0679	0.0013	888	13	848	15	876	41	97	0.431406
73R.D	1.282	0.032	0.1296	0.0027	0.0703	0.0018	838	14	785	15	922	50	85	0.075758
74.D	1.102	0.028	0.1155	0.0022	0.067	0.0019	752	14	704	12	817	61	86	0.308928
75.D	1.172	0.03	0.1211	0.0027	0.0661	0.0015	785	14	739	16	806	48	92	0.347222
76R.D	1.203	0.025	0.1273	0.0024	0.0652	0.0014	800	11	772	14	767	46	101	0.050942
77.D	1.676	0.038	0.1589	0.0029	0.073	0.0017	1003	14	950	16	1033	49	92	0.968054
78.D	1.35	0.033	0.1316	0.0022	0.0722	0.0019	867	14	798	13	970	53	82	0.257069
79.D	1.236	0.048	0.1089	0.0026	0.0833	0.003	814	21	666	15	1266	70	53	4.539265
80.D	1.103	0.031	0.1155	0.0024	0.0731	0.0021	753	15	705	14	1015	59	69	1.075269
81.D	1.666	0.042	0.1672	0.003	0.0757	0.0017	997	15	996	17	1093	46	91	0.225938
82.D	1.716	0.044	0.1715	0.0033	0.0773	0.0017	1012	16	1023	18	1136	44	90	0.864304
83.D	1.28	0.043	0.1475	0.004	0.0688	0.0018	842	19	886	22	909	55	97	0.220556
84.D	1.35	0.035	0.1562	0.0031	0.0665	0.0018	866	15	935	17	794	59	118	0.092678
85.D	1.18	0.035	0.1314	0.0027	0.07	0.002	791	16	795	15	944	57	84	0.253421
86.D	1.23	0.027	0.1429	0.0025	0.0672	0.0015	818	12	862	14	836	46	103	0.21692
87.D	0.951	0.022	0.1063	0.0017	0.0671	0.0016	676	12	650.9	9.9	846	48	77	0.205339
88R.D	1.27	0.027	0.1157	0.0026	0.0863	0.0018	833	12	705	15	1340	43	53	2.03252
89.D	0.874	0.029	0.107	0.0024	0.0652	0.0021	638	16	657	14	779	70	84	0.180538
8R.D	1.357	0.03	0.1399	0.0027	0.0689	0.0015	868	13	845	15	895	45	94	0.071788

9.D	1.658	0.031	0.1549	0.0028	0.0775	0.0013	993	12	929	16	1140	33	81	0.794913
90.D	1.373	0.03	0.1625	0.0035	0.0673	0.0015	877	13	969	20	857	49	113	0.064599
91R.D	1.142	0.029	0.1329	0.0025	0.068	0.002	773	13	804	14	852	61	94	0.1443
92.D	1.073	0.021	0.1167	0.0025	0.0727	0.0014	738	10	713	14	1010	40	71	0.668449
93.D	0.976	0.023	0.1203	0.0025	0.0648	0.0016	690	12	732	15	764	55	96	0.05848
94.D	1.613	0.032	0.1846	0.0036	0.0702	0.0015	976	12	1091	20	941	44	116	0.214133
95R.D	1.134	0.023	0.1421	0.0026	0.0654	0.0014	772	11	856	15	783	44	109	0.061463
96.D	2.61	0.078	0.225	0.0059	0.0932	0.0027	1299	21	1305	31	1490	56	88	0.210349
97.D	0.94	0.041	0.1191	0.0034	0.0645	0.0031	671	22	726	20	680	100	107	0.322373
98R.D	0.952	0.032	0.1226	0.0025	0.0639	0.002	681	16	746	15	727	69	103	0.098425
99.D	2.826	0.083	0.2548	0.0061	0.0906	0.0026	1368	21	1460	31	1424	55	103	0.789266
PLES01.D	0.368	0.011	0.05298	0.00093	0.0534	0.0017	318.2	8.1	332.7	5.7	342	69	97	
PLES01.D	0.365	0.017	0.0544	0.0012	0.0547	0.0026	313	13	341.2	7.2	353	89	97	
PLES02.D	0.367	0.012	0.0537	0.0011	0.0508	0.0018	317.5	9	337	6.6	232	71	145	
PLES02.D	0.37	0.015	0.0566	0.0013	0.0531	0.0022	317	11	354.5	8.2	296	80	120	
PLES03.D	0.384	0.014	0.0538	0.001	0.0523	0.0019	328.7	9.7	337.6	6.1	292	71	116	
PLES03.D	0.373	0.014	0.0575	0.0011	0.0519	0.002	321	10	360.4	6.6	260	75	139	
PLES04.D	0.421	0.015	0.0553	0.0013	0.054	0.002	355	10	347	7.7	363	77	96	
PLES04.D	0.383	0.015	0.0537	0.0011	0.054	0.002	327	11	336.8	7	350	79	96	

PLES05.D	0.383	0.013	0.0537	0.0011	0.0523	0.0018	328.6	9.3	336.8	6.5	282	70	119
PLES05.D	0.379	0.015	0.0513	0.0012	0.0543	0.0024	324	11	323.2	7.2	325	88	99
PLES06.D	0.385	0.014	0.05397	0.00093	0.0514	0.0019	328.7	9.9	338.8	5.7	230	72	147
PLES06.D	0.389	0.016	0.0547	0.0012	0.0518	0.0021	331	12	343.3	7.3	256	82	134
PLES07.D	0.381	0.015	0.0527	0.0011	0.0526	0.0021	326	11	331.8	6.8	282	79	118
PLES07.D	0.396	0.016	0.0539	0.0012	0.0536	0.0022	337	11	338.4	7.4	314	84	108
PLES08.D	0.392	0.014	0.0532	0.001	0.0531	0.0021	335	10	333.9	6.2	308	81	108
PLES08.D	0.4	0.015	0.0534	0.0011	0.0543	0.0021	339	11	335.1	7	348	77	96
PLES09.D	0.399	0.014	0.05389	0.00089	0.054	0.002	339.8	9.8	338.3	5.5	342	77	99
PLES09.D	0.381	0.015	0.0524	0.0011	0.0518	0.0019	326	11	328.9	6.8	266	75	124
PLES10.D	0.401	0.014	0.0538	0.0011	0.0534	0.002	342	10	337.5	6.9	335	77	101
PLES10.D	0.4	0.016	0.0529	0.0013	0.0535	0.0021	339	11	332.3	7.7	323	79	103
PLES11.D	0.399	0.02	0.0525	0.0012	0.0546	0.0028	336	14	329.7	7.1	355	98	93
PLES11.D	0.395	0.017	0.0534	0.0012	0.0523	0.0021	333	12	334.9	7.4	282	80	119
PLES12.D	0.404	0.017	0.0543	0.0012	0.0542	0.0026	345	12	340.8	7.3	355	98	96
PLES12.D	0.403	0.015	0.0501	0.0011	0.056	0.0024	342	11	315.3	7	390	86	81
PLES13.D	0.382	0.013	0.0519	0.001	0.0536	0.0018	327.1	9.8	326.4	6.2	340	70	96
PLES13.D	0.408	0.02	0.0515	0.0013	0.0567	0.0029	343	13	323.8	7.7	422	95	77
PLES14.D	0.388	0.012	0.05295	0.00092	0.0528	0.0018	331.5	8.7	332.5	5.6	296	69	112

PLES14.D	0.389	0.017	0.0516	0.0013	0.0528	0.0022	332	12	324	7.7	309	83	105	
PLES15.D	0.381	0.014	0.0555	0.0011	0.051	0.0019	327	9.9	348.3	6.5	216	75	161	
PLES15.D	0.403	0.017	0.0523	0.0011	0.0557	0.0026	341	12	328.6	6.7	371	89	89	
PLES17.D	0.38	0.014	0.0538	0.0011	0.0518	0.002	326.4	9.8	337.7	6.6	251	77	135	
PLES17.D	0.423	0.023	0.0543	0.0015	0.0568	0.0027	349	14	340.9	9	424	98	80	
PLES18.D	0.391	0.016	0.0547	0.0012	0.0506	0.0021	332	12	343.3	7.2	230	86	149	
PLES18.D	0.407	0.015	0.0548	0.0012	0.054	0.0019	345	10	344.2	7.5	370	73	93	
PLES19.D	0.406	0.015	0.0552	0.0011	0.0532	0.0021	346	11	346	6.8	315	84	110	
PLES19.D	0.39	0.014	0.0547	0.0013	0.0534	0.0021	334	10	343.3	7.8	329	78	104	
PLES20.D	0.414	0.016	0.0532	0.001	0.0543	0.0021	349	11	334.3	6.1	355	76	94	
PLES20.D	0.368	0.014	0.0558	0.0014	0.0505	0.0021	316	11	349.9	8.5	235	81	149	
PLES21.D	0.396	0.013	0.0538	0.0012	0.053	0.002	337.8	9.7	338.5	7.5	303	77	112	
PLES22.D	0.396	0.013	0.056	0.0011	0.0526	0.0019	341.6	9.5	351.3	6.9	284	73	124	
PLES23.D	0.394	0.014	0.0537	0.0012	0.0528	0.002	336.3	9.8	336.9	7.5	327	78	103	
PLES24.D	0.396	0.015	0.0521	0.0012	0.0557	0.0025	340	11	327.3	7.5	426	92	77	
PLS16.D	0.399	0.017	0.0516	0.0012	0.0552	0.0025	338	12	324.2	7.5	359	89	90	
stdGJ02.D	0.97	0.039	0.16	0.1001	0.0028	0.0031	687	20	614	15	564	95	109	
stdGJ06.D	0.753	0.027	0.12	0.0989	0.0024	0.0028	570	15	608	11	608	81	100	
stdGJ07.D	0.77	0.03	0.12	0.0999	0.0025	0.003	574	17	614	13	659	84	93	

stdGJ07.D	0.761	0.03	0.0975	0.0022	0.0619	0.0026	574	16	602	13	661	88	91
stdGJ08.D	0.742	0.029	0.13	0.1008	0.0027	0.003	558	17	619	12	504	92	123
stdGJ08.D	0.746	0.028	0.1003	0.0023	0.0616	0.0028	561	16	616	13	618	96	100
stdGJ09.D	0.803	0.034	0.13	0.0974	0.0027	0.0031	598	19	598	14	605	92	99
stdGJ10.D	0.872	0.04	0.14	0.1015	0.003	0.0034	630	21	622	13	611	98	102
stdGJ10.D	0.745	0.031	0.0984	0.0022	0.0596	0.0026	563	18	605	13	561	92	108
stdGJ11.D	0.751	0.033	0.0959	0.0026	0.0605	0.0028	569	18	589	15	609	94	97
stdGJ12.D	0.776	0.035	0.0951	0.0022	0.0602	0.0028	581	20	587	13	564	93	104
stdGJ13.D	0.83	0.031	0.14	0.1	0.0026	0.003	612	17	614	13	566	85	108
stdGJ13.D	0.801	0.038	0.1008	0.0025	0.059	0.003	592	21	618	15	520	100	119
stdGJ14.D	0.758	0.036	0.13	0.0965	0.0027	0.0031	569	20	595	14	447	98	133
stdGJ14.D	0.769	0.031	0.097	0.0024	0.0582	0.0023	575	17	596	14	518	84	115
stdGJ15.D	0.803	0.035	0.14	0.0986	0.0029	0.0033	591	20	606	14	538	97	113
stdGJ15.D	0.786	0.033	0.1006	0.0024	0.0588	0.0025	592	17	617	14	535	87	115
stdGJ18.D	0.817	0.037	0.13	0.098	0.0026	0.003	609	20	602	14	588	92	102
stdGJ18.D	0.791	0.033	0.0974	0.0026	0.0593	0.0025	594	18	600	15	538	84	112
stdGJ19.D	0.822	0.037	0.13	0.0983	0.0027	0.0031	605	20	604	12	534	94	113
stdGJ19.D	0.797	0.033	0.0944	0.0025	0.0616	0.0026	592	18	581	15	611	90	95
stdGJ20.D	0.808	0.041	0.13	0.0971	0.0032	0.0033	595	23	597	15	580	110	103

stdGJ20.D	0.831	0.034	0.0961	0.0026	0.0618	0.0026	607	19	591	15	661	90	89
stdGJ21.D	0.83	0.035	0.13	0.0997	0.0027	0.0032	607	19	612	15	610	92	100
stdGJ22.D	0.801	0.036	0.13	0.0977	0.0028	0.0032	594	20	600	16	536	97	112
stdGJ22.D	0.779	0.036	0.0954	0.0026	0.0596	0.0027	583	20	587	15	540	95	109
stdGJ23.D	0.797	0.033	0.0944	0.0027	0.0614	0.0026	589	18	581	16	618	87	94
stdGJ24.D	0.805	0.037	0.13	0.0993	0.003	0.0033	595	21	610	14	490	110	124
stdGJ24.D	0.799	0.037	0.0964	0.0023	0.0587	0.0024	596	21	593	13	551	86	108
stdGJ25.D	0.809	0.036	0.13	0.0963	0.0028	0.0032	598	20	592	15	583	97	102
stdGJ25.D	0.831	0.034	0.1011	0.0026	0.0604	0.003	609	19	620	15	550	100	113
stdGJ26.D	0.826	0.036	0.14	0.0982	0.0026	0.003	606	20	603	15	640	88	94
stdGJ26.D	0.812	0.039	0.0959	0.0028	0.0589	0.0028	596	21	590	16	530	100	111
stdGJ27.D	0.79	0.036	0.13	0.0978	0.0028	0.0032	586	20	601	16	509	98	118
stdGJ27.D	0.85	0.035	0.0977	0.0024	0.0609	0.0025	620	18	600	14	567	86	106
stdGJ28.D	0.804	0.032	0.13	0.0975	0.0025	0.0029	597	18	599	12	546	85	110
stdGJ28.D	0.849	0.039	0.0975	0.0022	0.0614	0.003	615	22	599	13	610	100	98
stdGJ29.D	0.813	0.034	0.13	0.0976	0.0028	0.0032	599	19	600	14	601	95	100
stdGJ29.D	0.83	0.036	0.0954	0.0024	0.0609	0.0028	606	20	587	14	577	96	102
stdGJ30.D	0.798	0.036	0.13	0.098	0.0028	0.0031	590	20	602	13	488	97	123
stdGJ30.D	0.797	0.035	0.0987	0.0025	0.0572	0.0023	593	19	607	15	476	84	128

stdGJ31.D	0.813	0.04	0.13	0.0982	0.0028	0.0032	602	21	603	13	622	94	97
stdGJ32.D	0.794	0.032	0.13	0.096	0.0026	0.003	587	17	591	14	575	87	103
stdGJ32.D	0.801	0.035	0.094	0.0028	0.0603	0.0027	596	19	578	16	563	91	103
stdGJ33.D	0.828	0.036	0.14	0.1001	0.0028	0.0032	610	19	615	13	589	94	104
stdGJ33.D	0.828	0.033	0.0986	0.0026	0.0595	0.0025	614	17	606	15	571	86	106
stdGJ34.D	0.817	0.037	0.13	0.0962	0.0027	0.0032	605	20	592	14	651	93	91
stdGJ34.D	0.837	0.038	0.0965	0.0023	0.0608	0.0026	614	20	596	14	589	92	101
stdGJ35.D	0.812	0.032	0.13	0.097	0.0025	0.0029	601	18	597	12	606	86	99
stdGJ35.D	0.801	0.032	0.0976	0.0028	0.0594	0.0024	591	17	600	16	559	87	107
stdGJ36.D	0.809	0.033	0.13	0.0976	0.0025	0.0029	600	18	600	13	515	87	117
stdGJ37.D	0.82	0.036	0.13	0.0994	0.0027	0.0031	603	20	612	15	524	93	117
stdGJ37.D	0.833	0.03	0.0988	0.0021	0.0606	0.0022	613	16	607	12	609	77	100
stdGJ38.D	0.789	0.035	0.13	0.098	0.0027	0.0031	591	19	602	13	514	96	117
stdGJ38.D	0.821	0.033	0.0951	0.0025	0.0619	0.0027	606	18	585	15	648	87	90
stdGJ39.D	0.798	0.033	0.13	0.0961	0.0028	0.0032	594	19	592	13	573	97	103
stdGJ39.D	0.766	0.038	0.0987	0.0024	0.0571	0.0028	571	21	606	14	442	98	137
stdGJ40.D	0.824	0.04	0.14	0.0968	0.0032	0.0036	603	23	595	14	580	110	103
stdGJ40.D	0.768	0.036	0.0979	0.0028	0.0575	0.0028	576	21	604	16	469	95	129
stdGJ41.D	0.818	0.039	0.14	0.0979	0.0031	0.0034	605	22	601	15	590	110	102

stdGJ41.D	0.806	0.037	0.0972	0.0025	0.0606	0.003	596	20	598	15	590	100	101
stdGJ42.D	0.836	0.039	0.13	0.1004	0.0027	0.0031	612	21	617	15	537	94	115
stdGJ42.D	0.803	0.035	0.0963	0.0025	0.0618	0.0028	595	19	593	15	649	93	91
stdGJ43.D	0.796	0.034	0.13	0.0955	0.0027	0.0031	591	19	589	16	525	93	112
stdGJ43.D	0.807	0.035	0.0984	0.0027	0.0623	0.0025	602	19	604	16	658	83	92
stdGJ44.D	0.813	0.032	0.13	0.0973	0.0028	0.0032	603	18	598	15	590	95	101
stdGJ44.D	0.78	0.032	0.0982	0.0024	0.0597	0.0024	581	18	604	14	557	84	108
stdGJ45.D	0.802	0.034	0.13	0.0975	0.0026	0.003	595	19	599	14	554	96	108
stdGJ45.D	0.832	0.035	0.0979	0.0025	0.0612	0.0025	612	19	601	15	610	88	99
stdGJ46.D	0.825	0.033	0.13	0.098	0.0023	0.0027	607	18	603	15	593	79	102
stdGJ46.D	0.808	0.035	0.0957	0.0024	0.0599	0.0026	596	19	588	14	566	94	104
stdGJ47.D	0.807	0.034	0.13	0.0972	0.0023	0.0028	596	19	598	13	523	82	114
stdGJ47.D	0.82	0.035	0.098	0.0025	0.0614	0.0026	603	18	606	15	590	89	103
stdGJ48.D	0.781	0.035	0.12	0.0984	0.0027	0.0031	580	20	604	14	488	95	124
stdGJ48.D	0.821	0.037	0.0989	0.0024	0.0598	0.0026	606	20	607	14	568	94	107
stdGJ49.D	0.805	0.036	0.13	0.0969	0.0027	0.0031	600	19	596	15	615	92	97
stdGJ50.D	0.815	0.036	0.13	0.0992	0.0029	0.0033	600	19	609	16	611	91	100
stdGJ51.D	0.816	0.045	0.13	0.0961	0.004	0.0043	597	24	591	17	640	120	92
stdGJ52.D	0.796	0.035	0.13	0.097	0.0028	0.0032	586	20	598	13	503	98	119

stdGJ53.D	0.824	0.039	0.13	0.0982	0.0029	0.0033	604	21	604	13	570	100	106
stdGJ54.D	0.812	0.044	0.13	0.0976	0.0031	0.0034	597	24	600	16	580	100	103
stdGJ55.D	0.861	0.046	0.13	0.0992	0.0031	0.0035	616	24	609	14	660	100	92
stdGJ56.D	0.786	0.036	0.13	0.0957	0.0029	0.0033	582	21	589	16	623	97	95