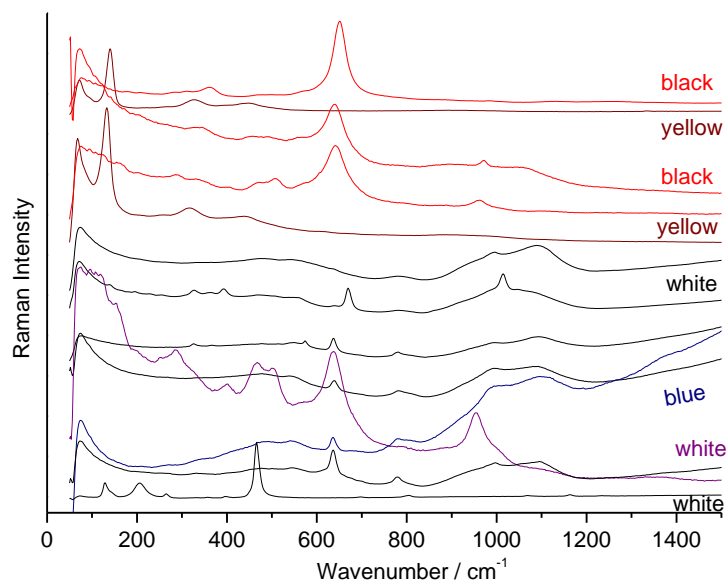
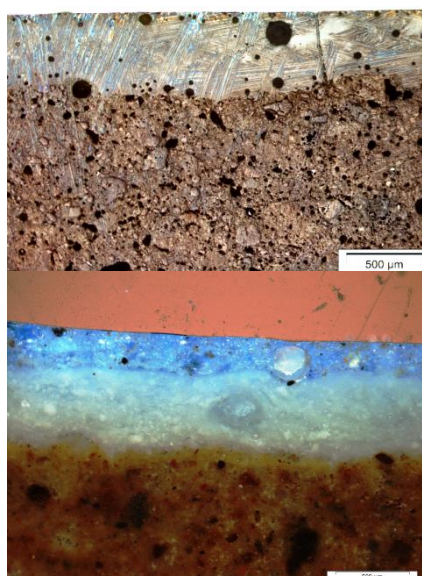
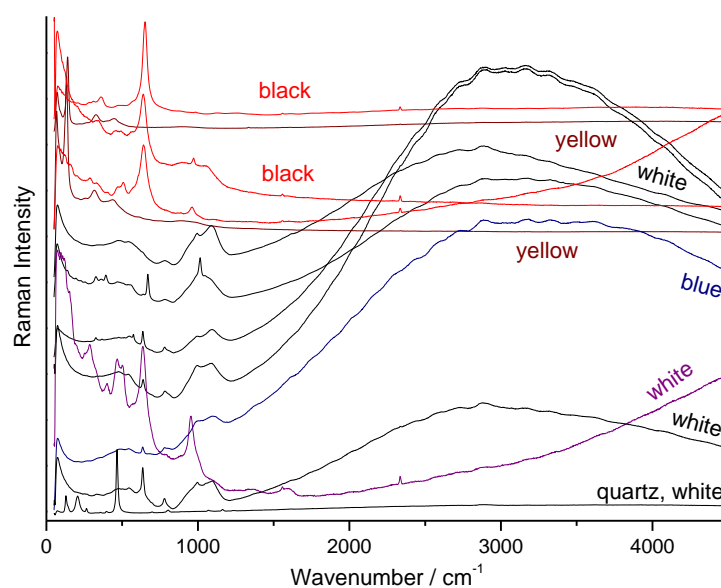
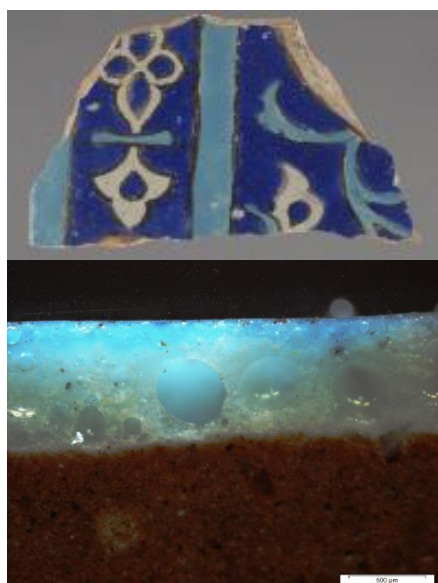




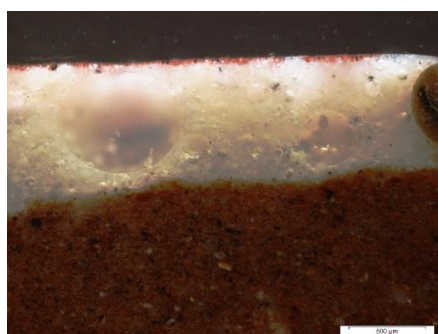
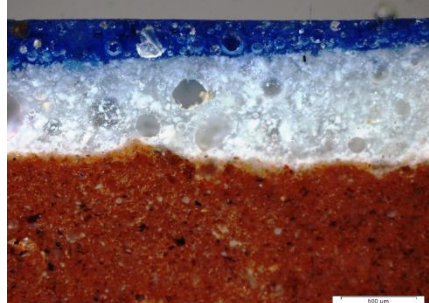
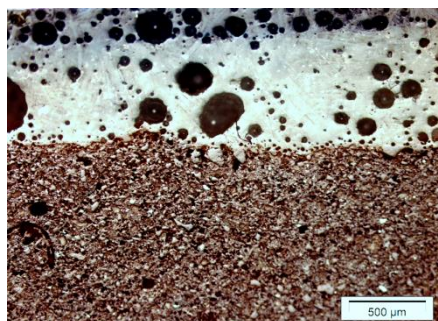
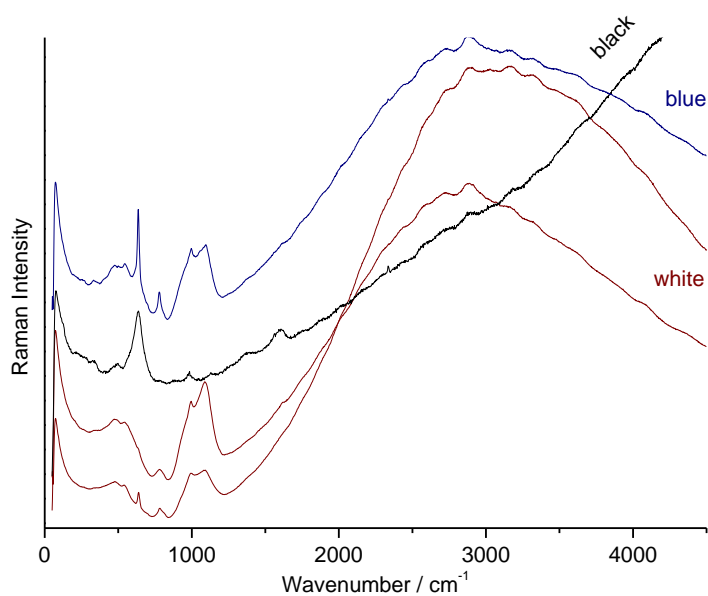
15524



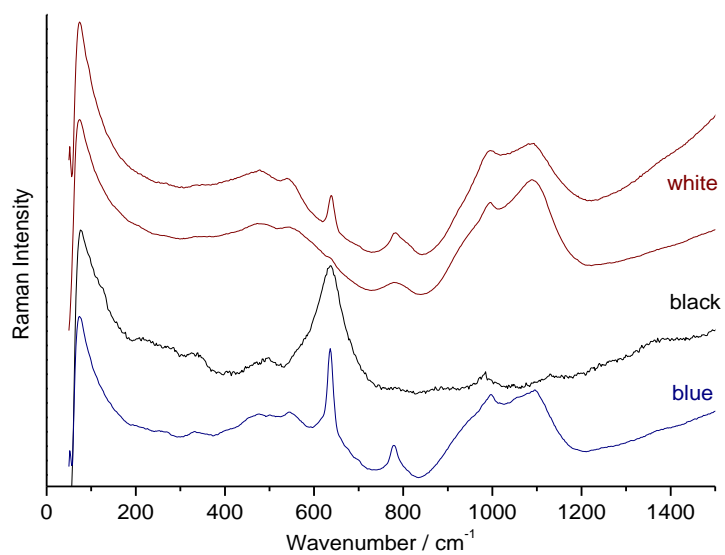
**Figure S1:** 458 nm laser excitation, MAO 2025d, Tile fragment depicting a panel (garden scene, prob.), Iran, end of 17th-beginning 19th century; purchased at public sale: France, Paris, Hôtel Drouot, Etude Boisgirard and Associates, March 19, 2004, lot no. 140.



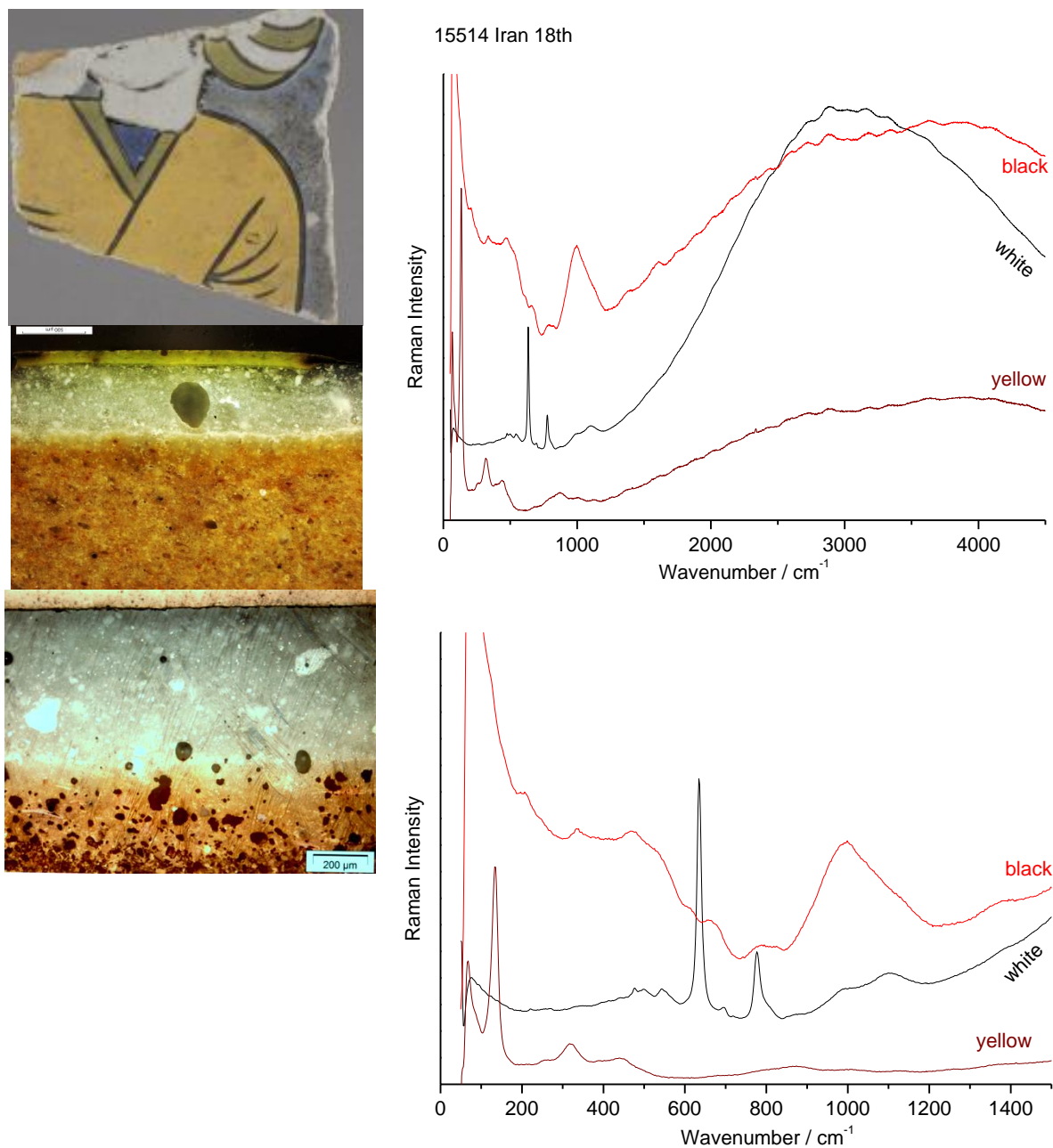
15521 Bibi Khanum 14th c



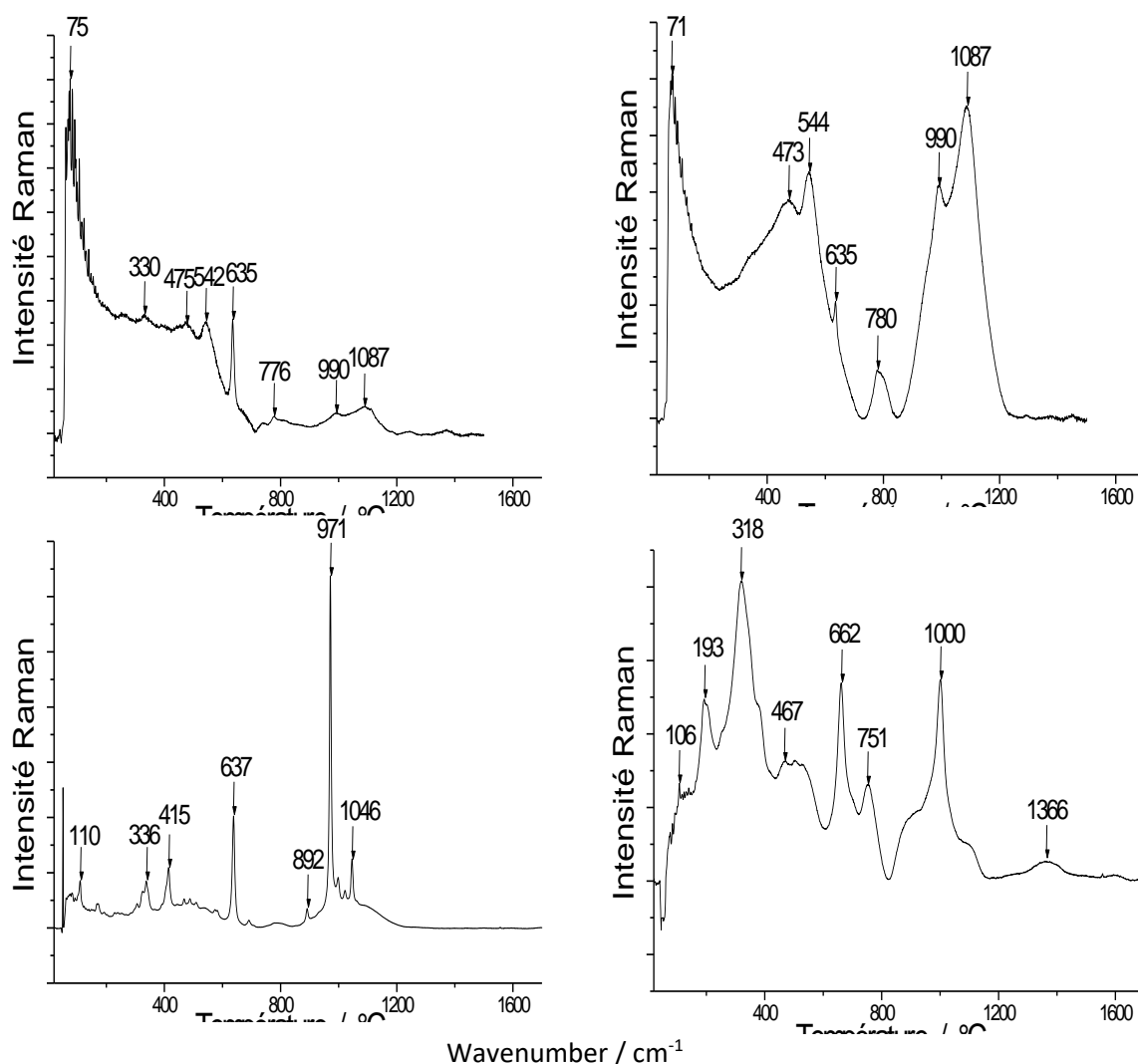
15521 Bibi Khanum 14th c



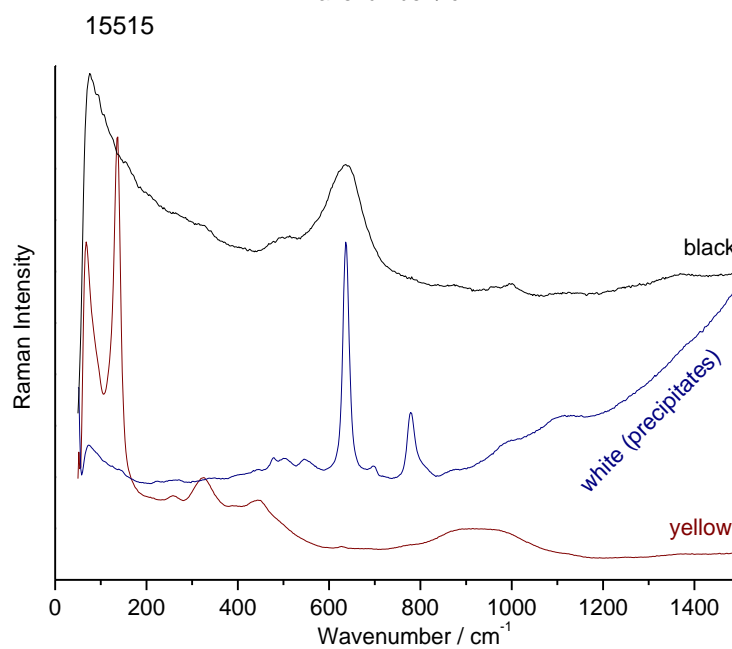
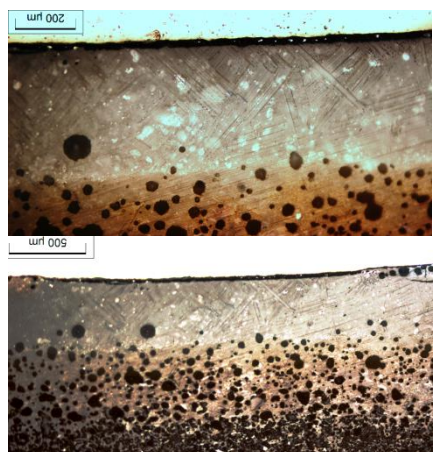
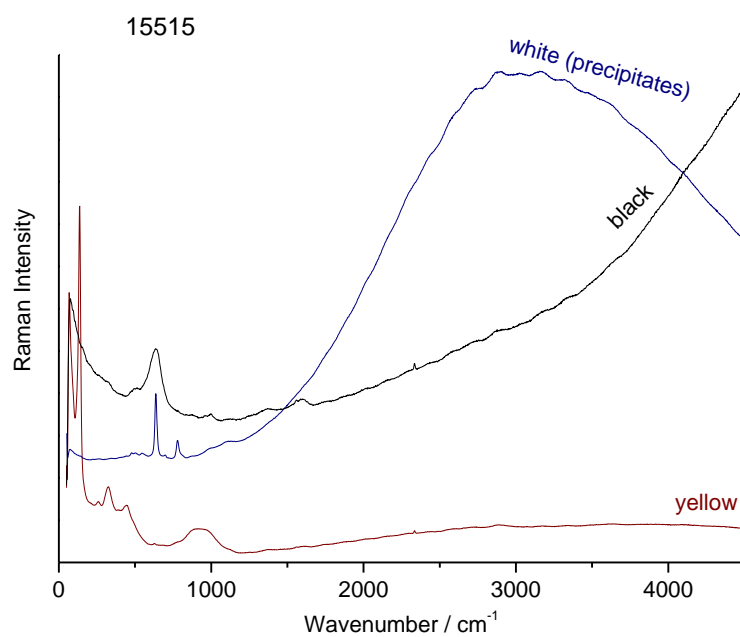
**Figure S2:** 458 nm laser excitation, MAO 936/923, tile fragment, Samarkand, Bîbî Khânum, 1399-1405, from Kiefer 'shard collection. Gift: Jean Soustiel.



**Figure S3a:** 458 nm laser excitation, MAO 936/642, Iran, 17<sup>th</sup>-19<sup>th</sup> century, tile fragment from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.

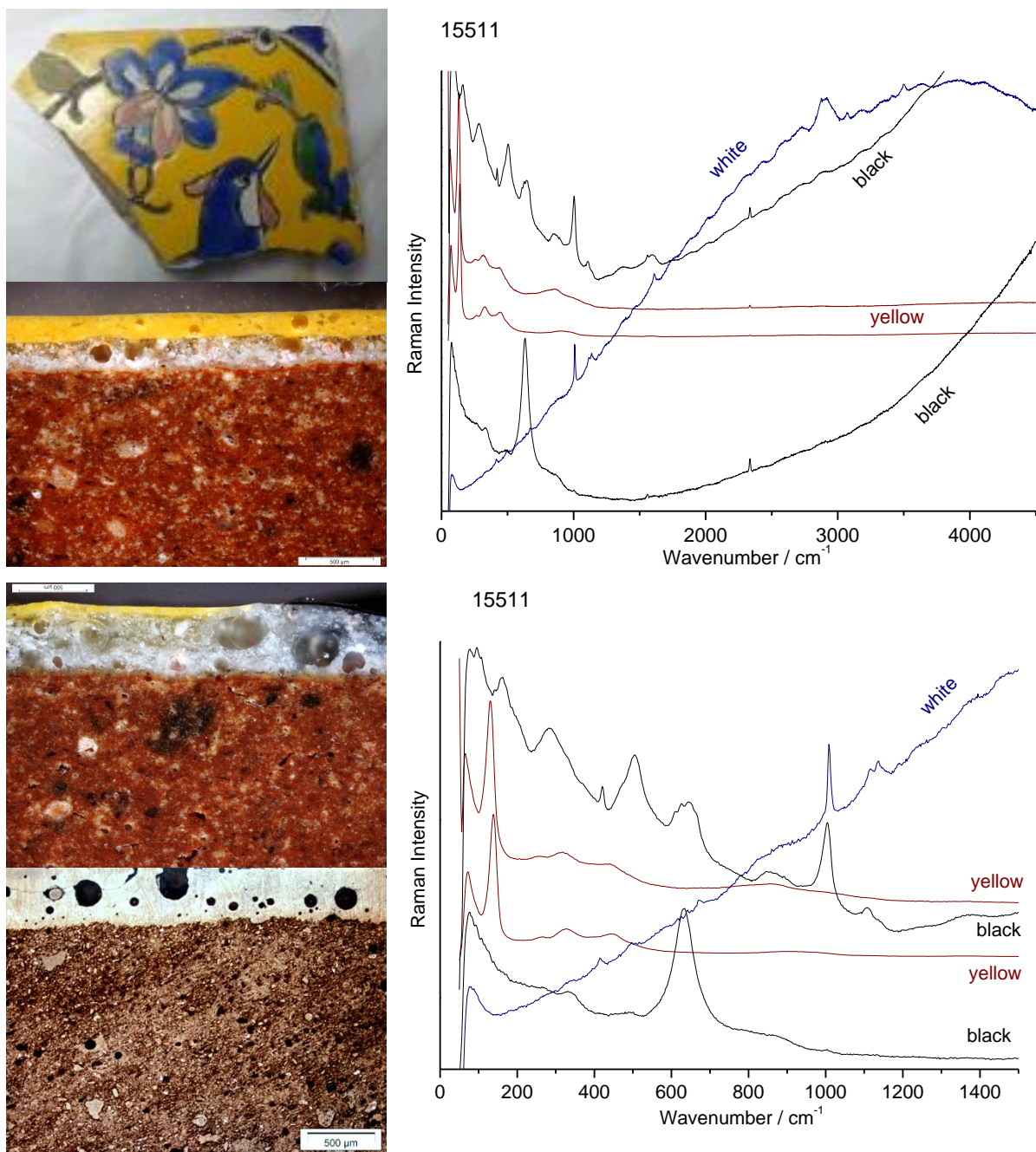


**Figure S3b:** 532 nm laser excitation, after baseline subtraction, MAO 936/642, Iran, 18<sup>th</sup> century, tile fragment from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.



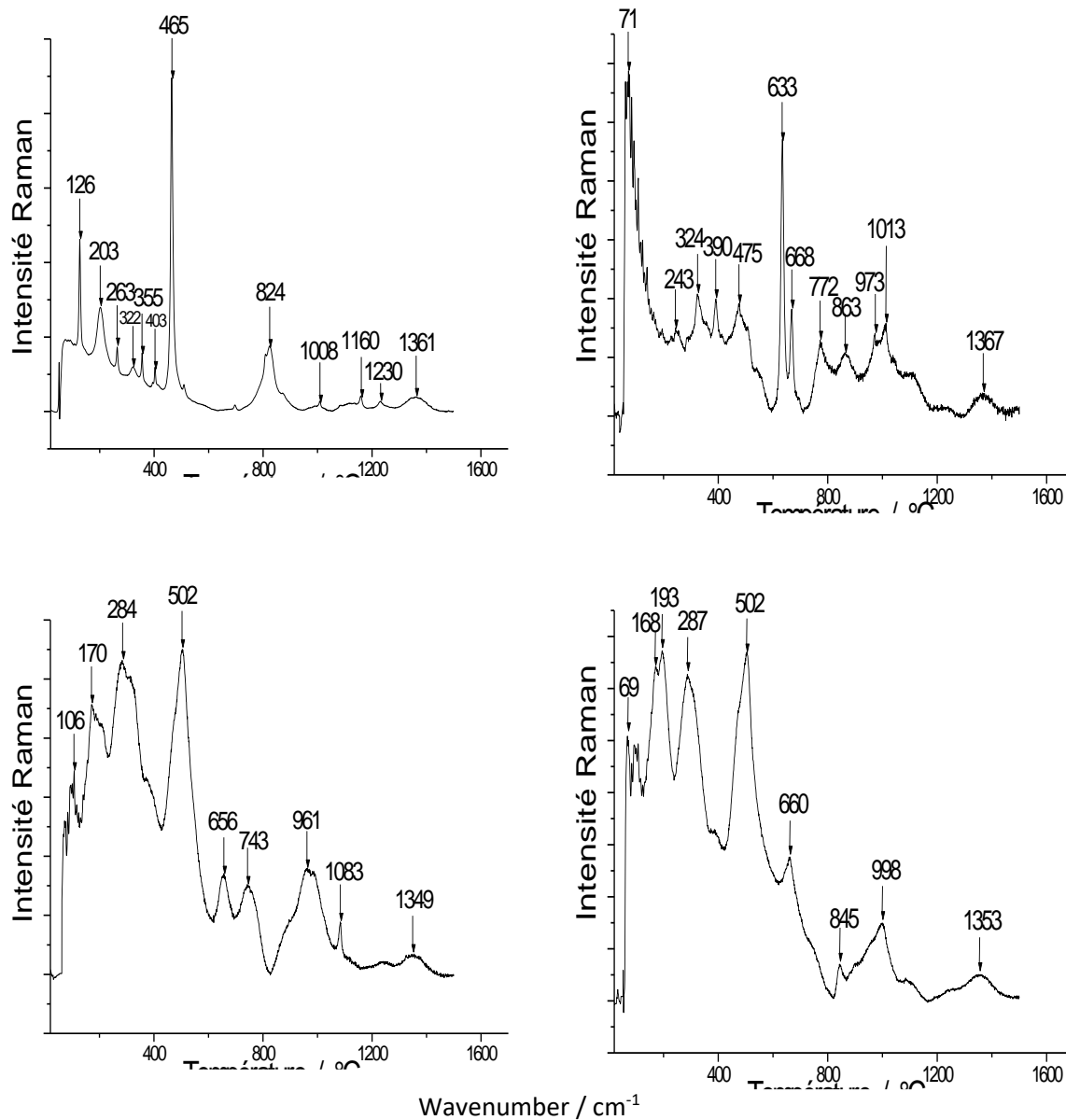
**Figure S4:** 458 nm laser excitation, MAO 936/644b, fragment of a panel with landscape decoration, Iran, 17<sup>th</sup>-19<sup>th</sup> century, from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.



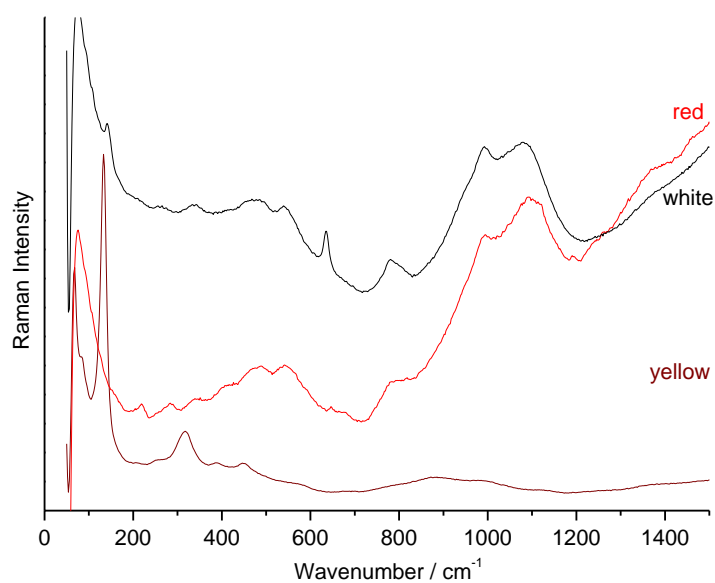
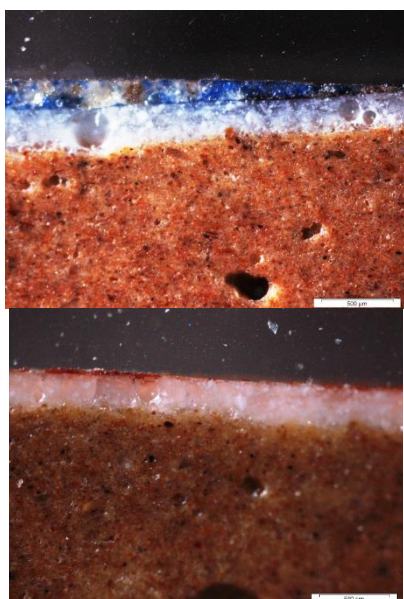
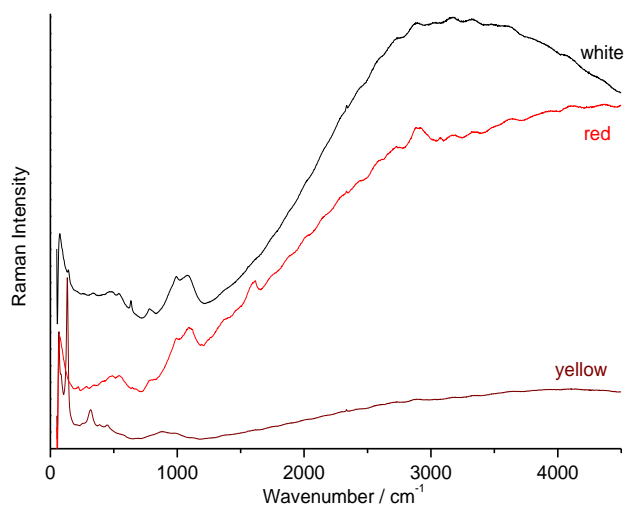


**Figure S5a:** 458 nm laser excitation, MAO 936/593, fragment of a panel with landscape decoration, Iran, 19<sup>th</sup> century, from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.

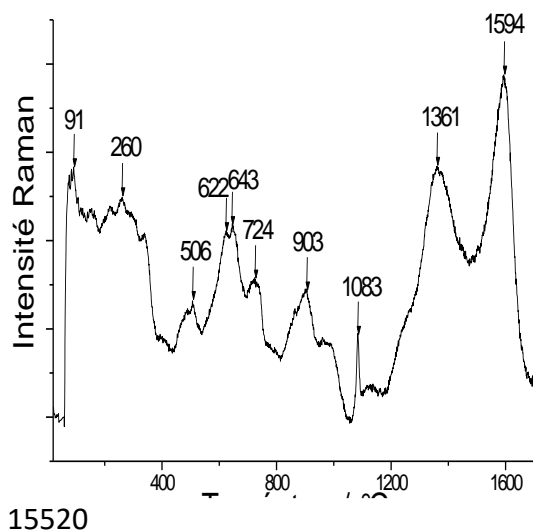
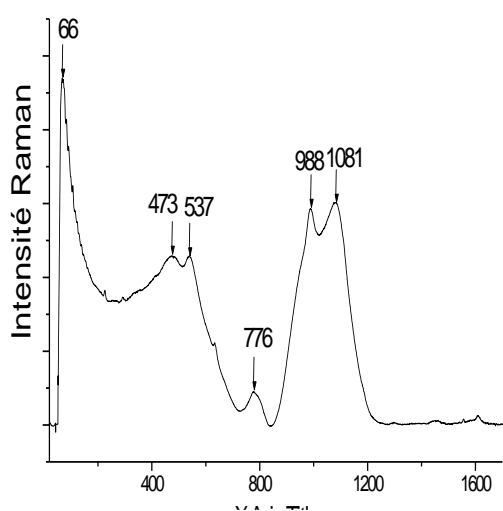
15511



**Figure S5b:** 532 nm laser excitation, after baseline subtraction, MAO 936/593, fragment of a panel with landscape decoration, Iran, 19<sup>th</sup> century, from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.

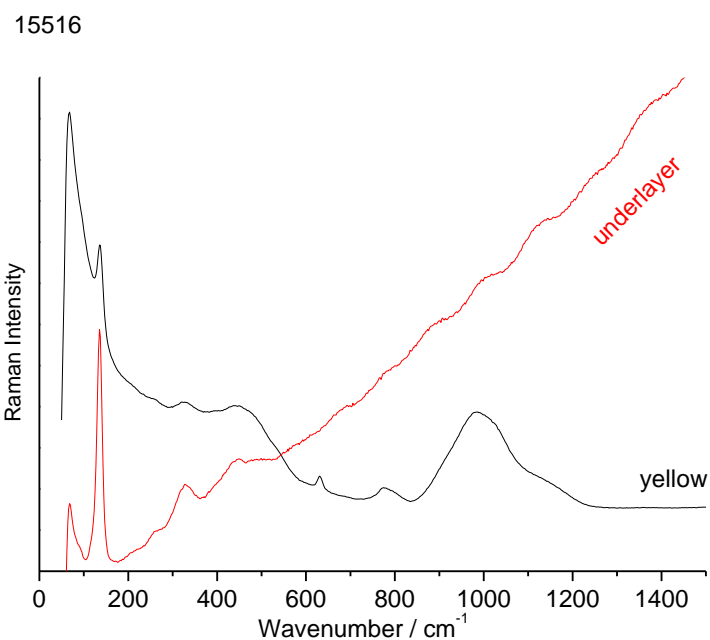
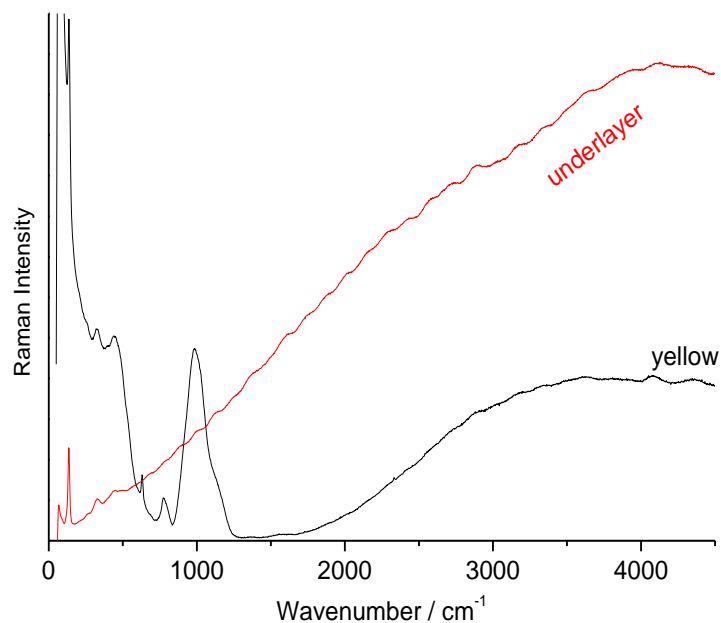
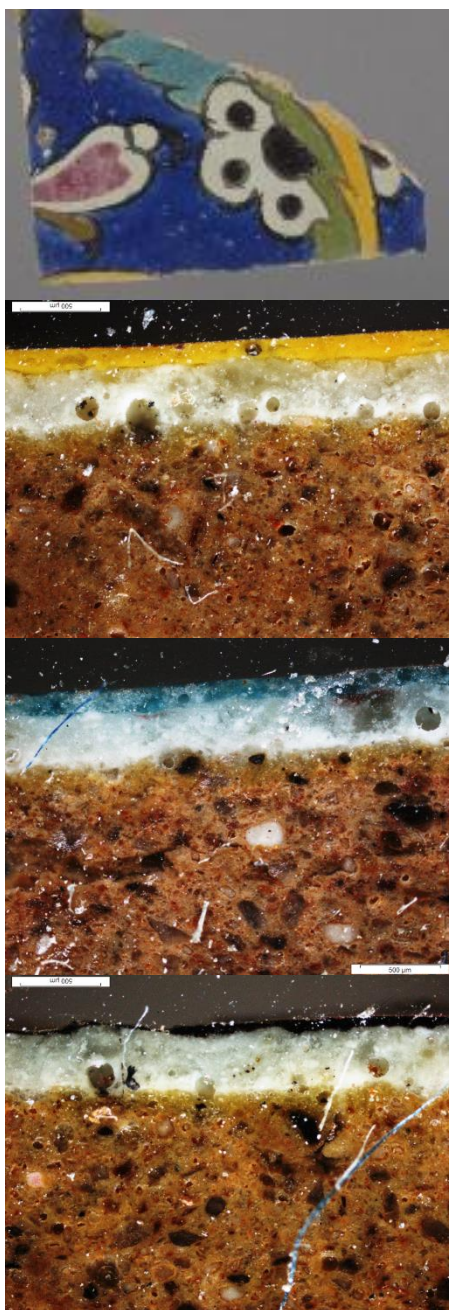


**Figure S6a:** 458 nm laser excitation, MAO 936/922, star tile fragment, Samarkand, Bîbî Khânûm, 15<sup>th</sup> century, from Kiefer' shard collection. Purchase: Jean Soustiel, 1996.

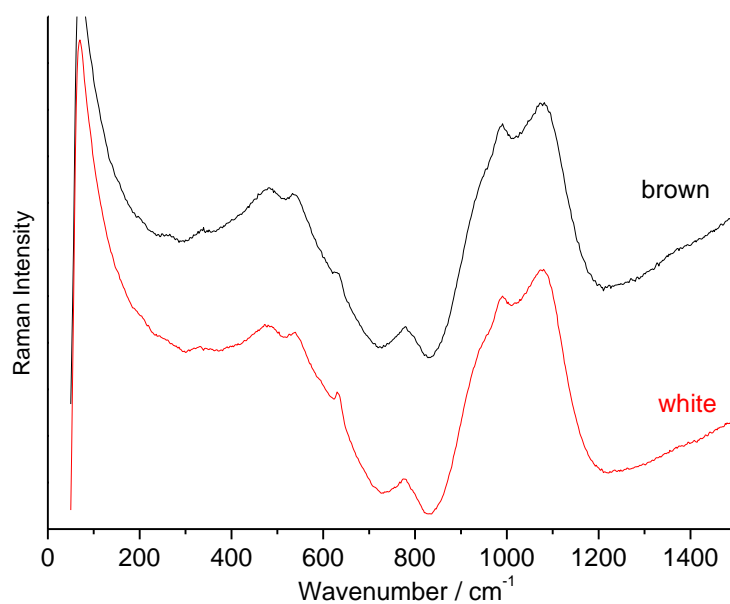
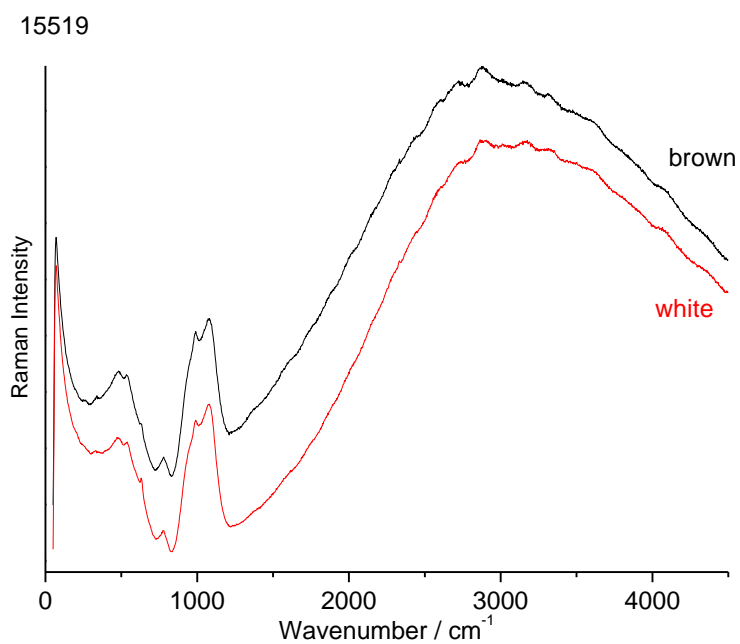


**Figure S6b:** 532 nm laser excitation, after baseline subtraction, MAO 936-922, star tile fragment, Samarkand, Bîbî Khânûm, 15<sup>th</sup> century, from Kiefer' shard collection. Purchase: Jean Soustiel, 1996.

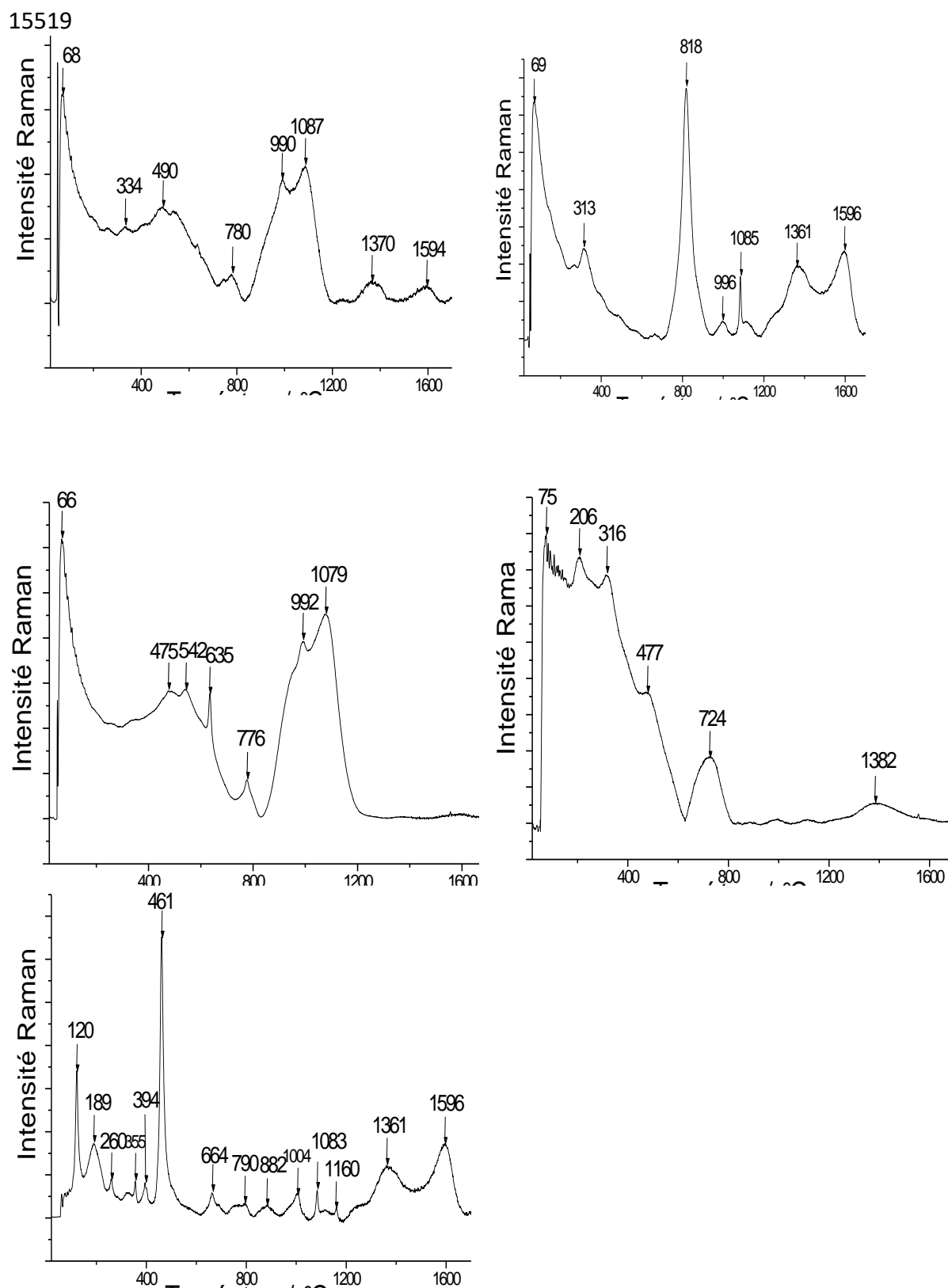




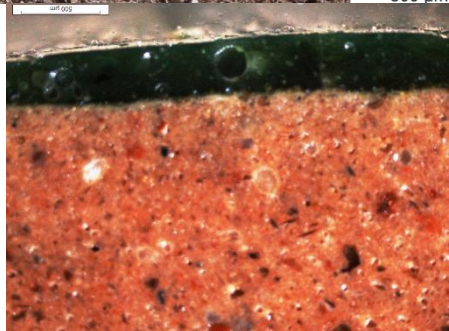
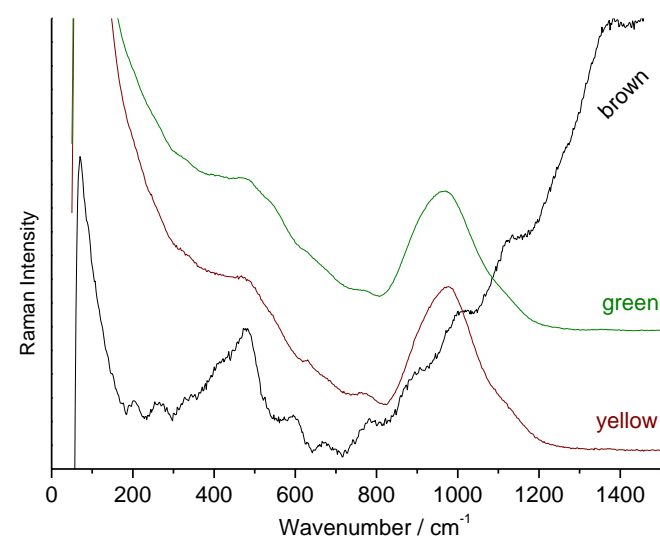
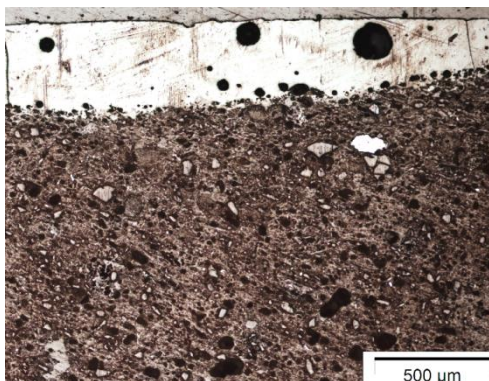
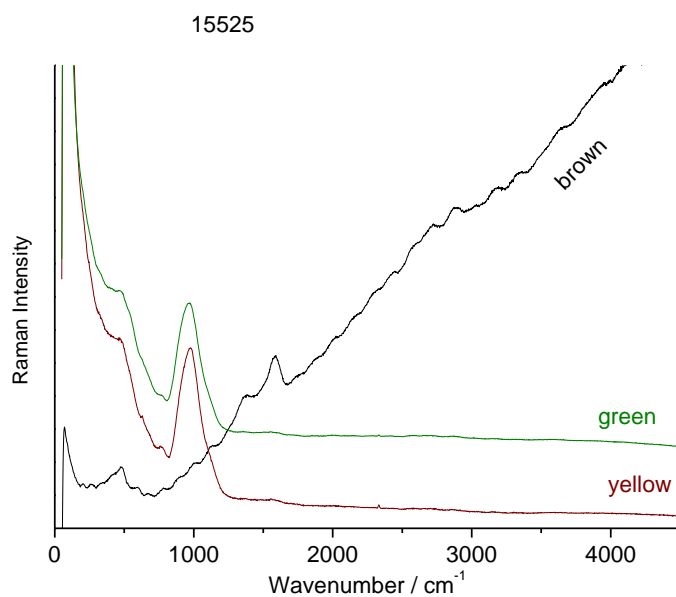
**Figure S7:** 458 nm laser excitation, MAO 936/646b tile fragment of a panel, Iran, 19<sup>th</sup> century, from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.



**Figure S8a:** 458 nm laser excitation, MA0936/921, tile fragment of Shar-e Sabz, Aq-Saray Samarkand, 1380-1404, from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.

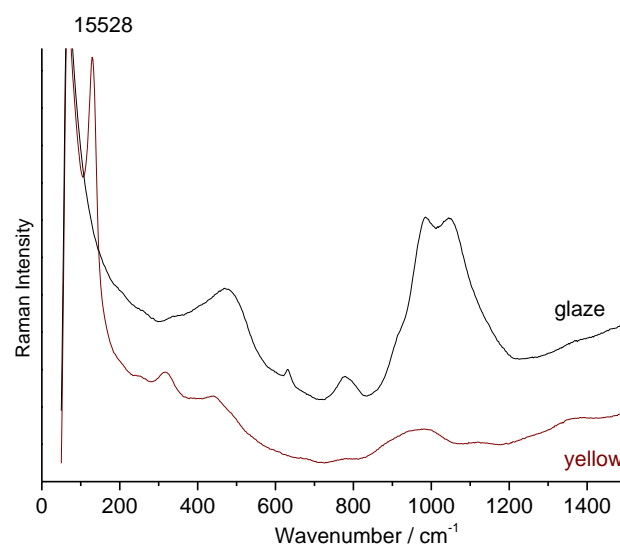
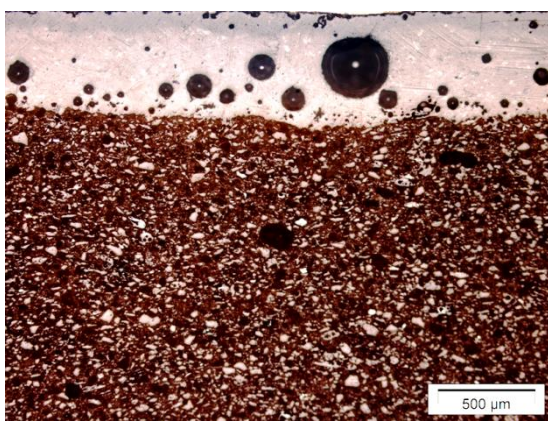
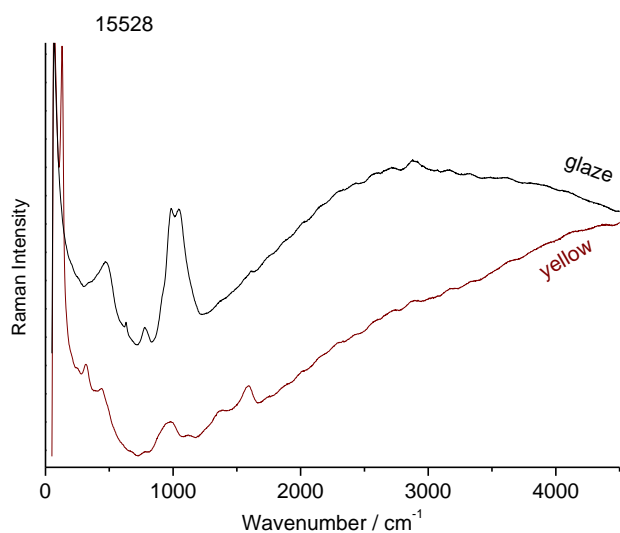


**Figure S8b:** 532 nm laser excitation, after baseline subtraction, MAO 936/921, tile fragment of Shar-e Sabz, Aq-Saray, Samarkand, 1380-1404, from Kiefer' shard collection. Purchase: Jean Soustiel, 1995.

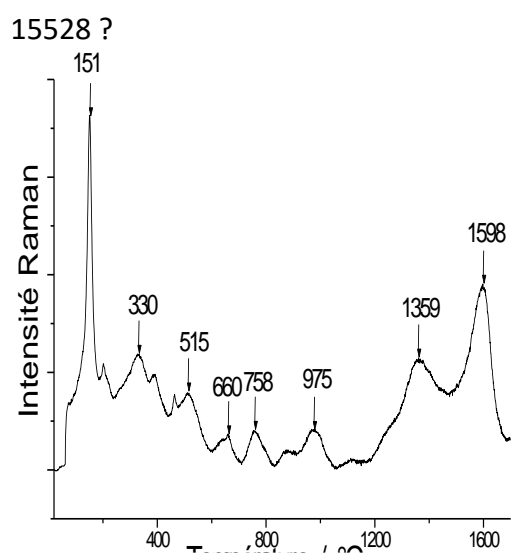
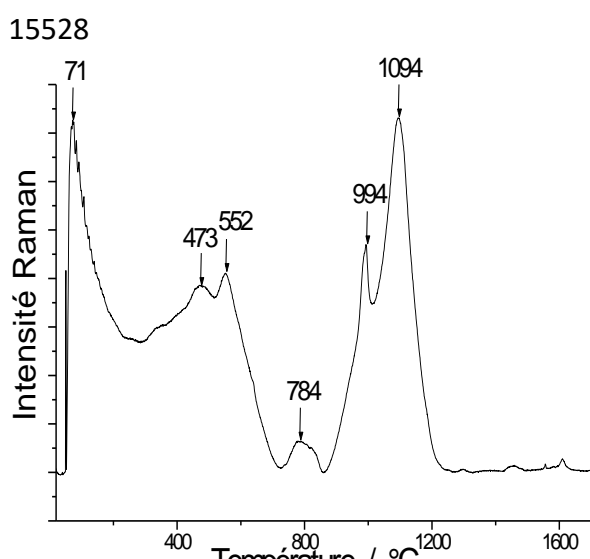


**Figure S9:** 458 nm laser excitation, MAO 2083/39 tile fragment, Al-Andalus (Spain). Gift David Sulzberger, 2006.



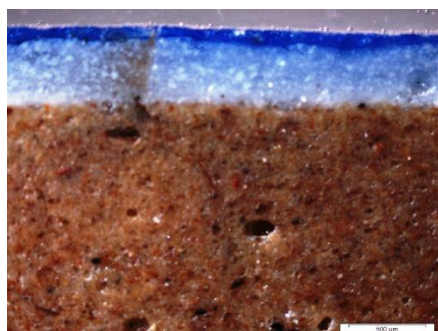


**Figure S10a:** 458 nm laser excitation, AD 3919/1006 tile fragment, Türkiye, İstanbul? middle 16<sup>th</sup> century. Purchase: Alexis Sorlin-Dorigny, 1895?

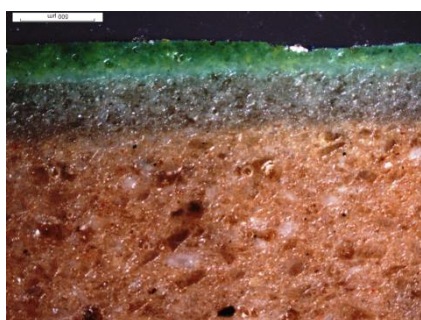
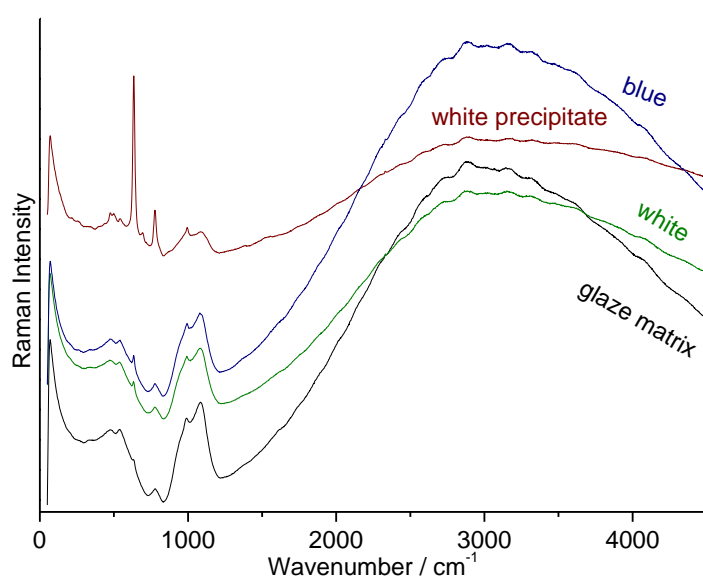


**Figure S10b:** 532 nm laser excitation, baseline subtraction, AD 3919/1006 tile fragment, middle 16<sup>th</sup> century, Türkiye, İstanbul?, Purchase: Alexis Sorlin-Dorigny, 1895?

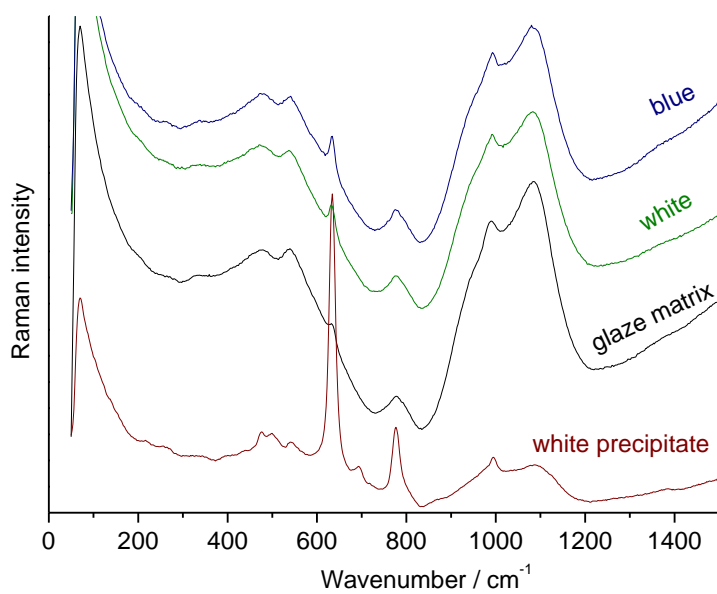




15506

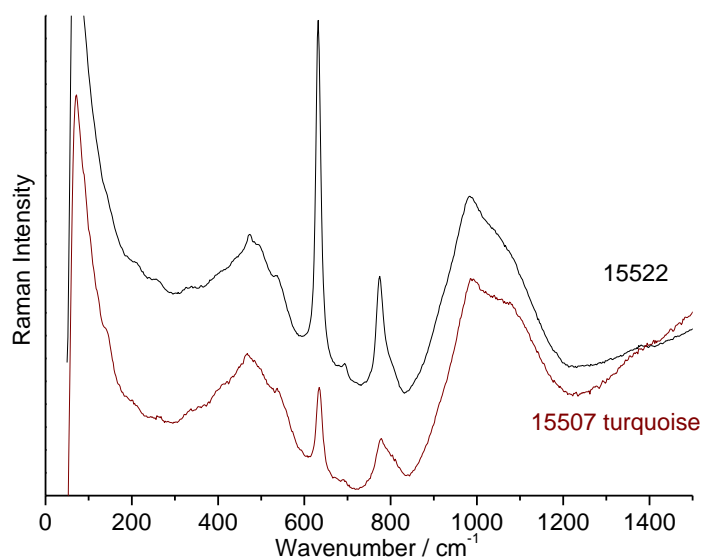
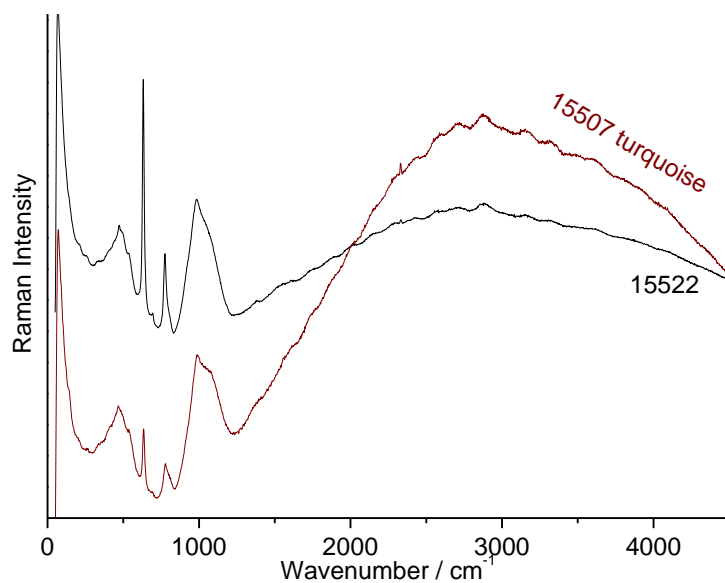
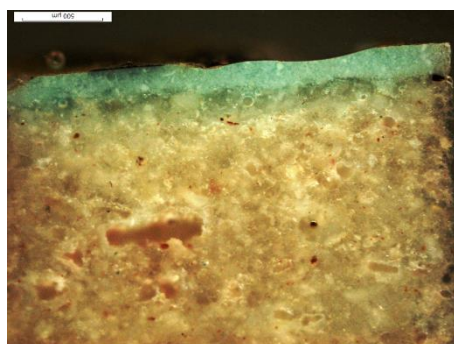
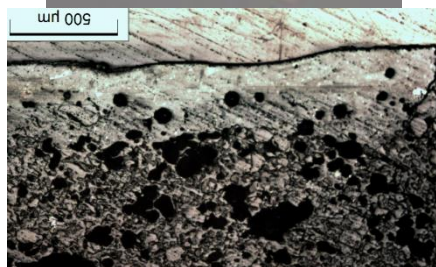


15506

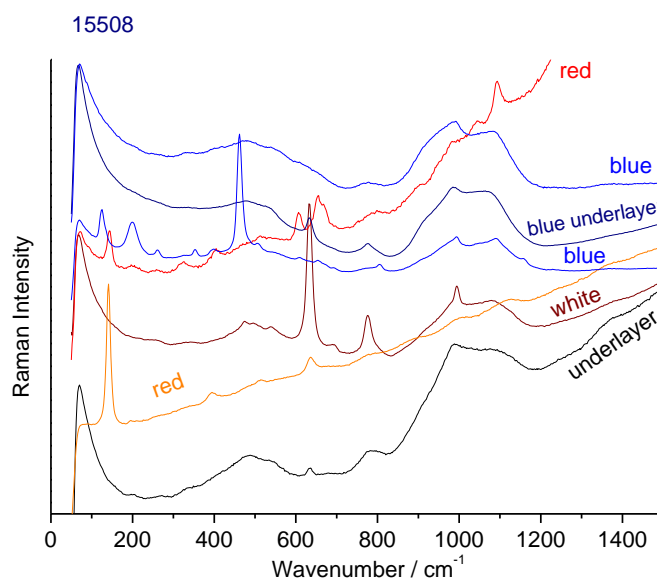
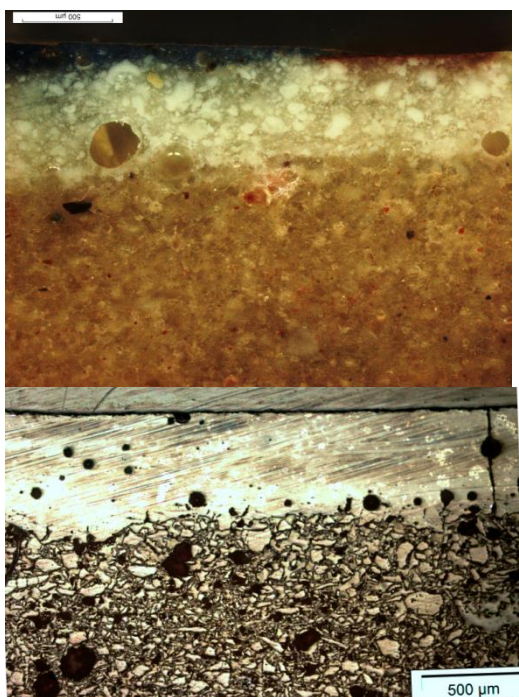
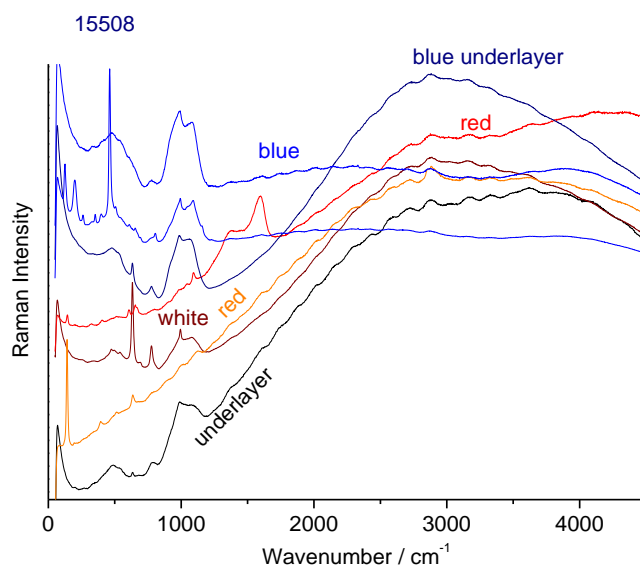


**Figure S11:** 458 nm laser excitation, AFI 698, tile, Uzbekistan, Samarkand (15<sup>th</sup>)

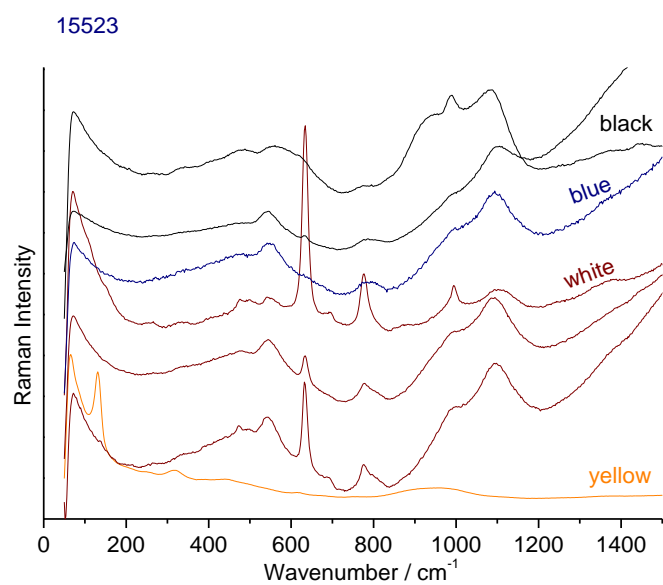
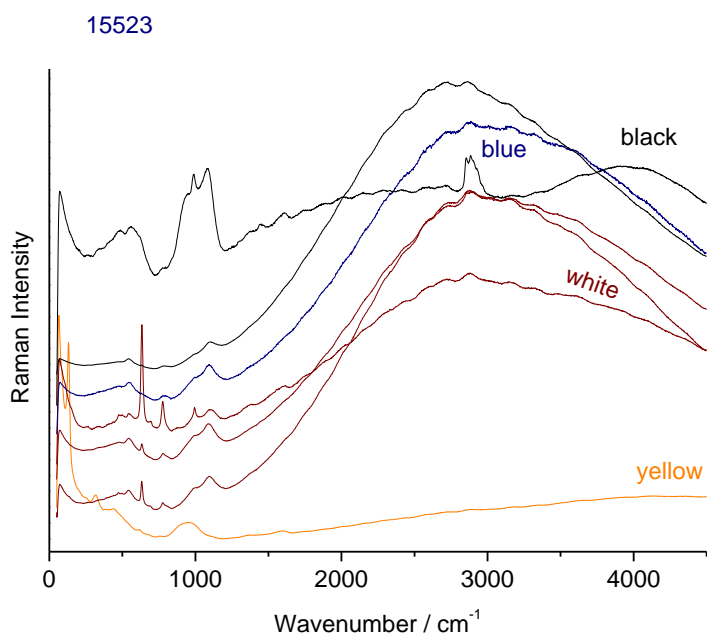
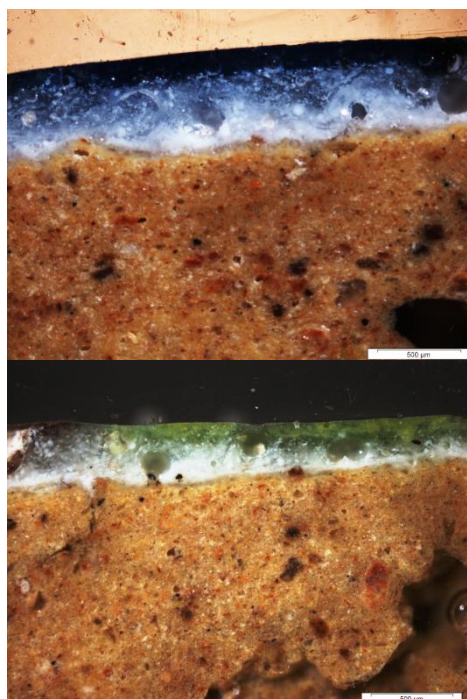
15522



**Figure S12:** 458 nm laser excitation, MAO 936/1127a (15522) tile fragment, Iran, last quarter of 12<sup>th</sup>-13<sup>th</sup> century, from Kiefer' shard collection. Gift Jean Soustiel, 1995 and 15507 (Iran, 12<sup>th</sup>-13<sup>th</sup> century).

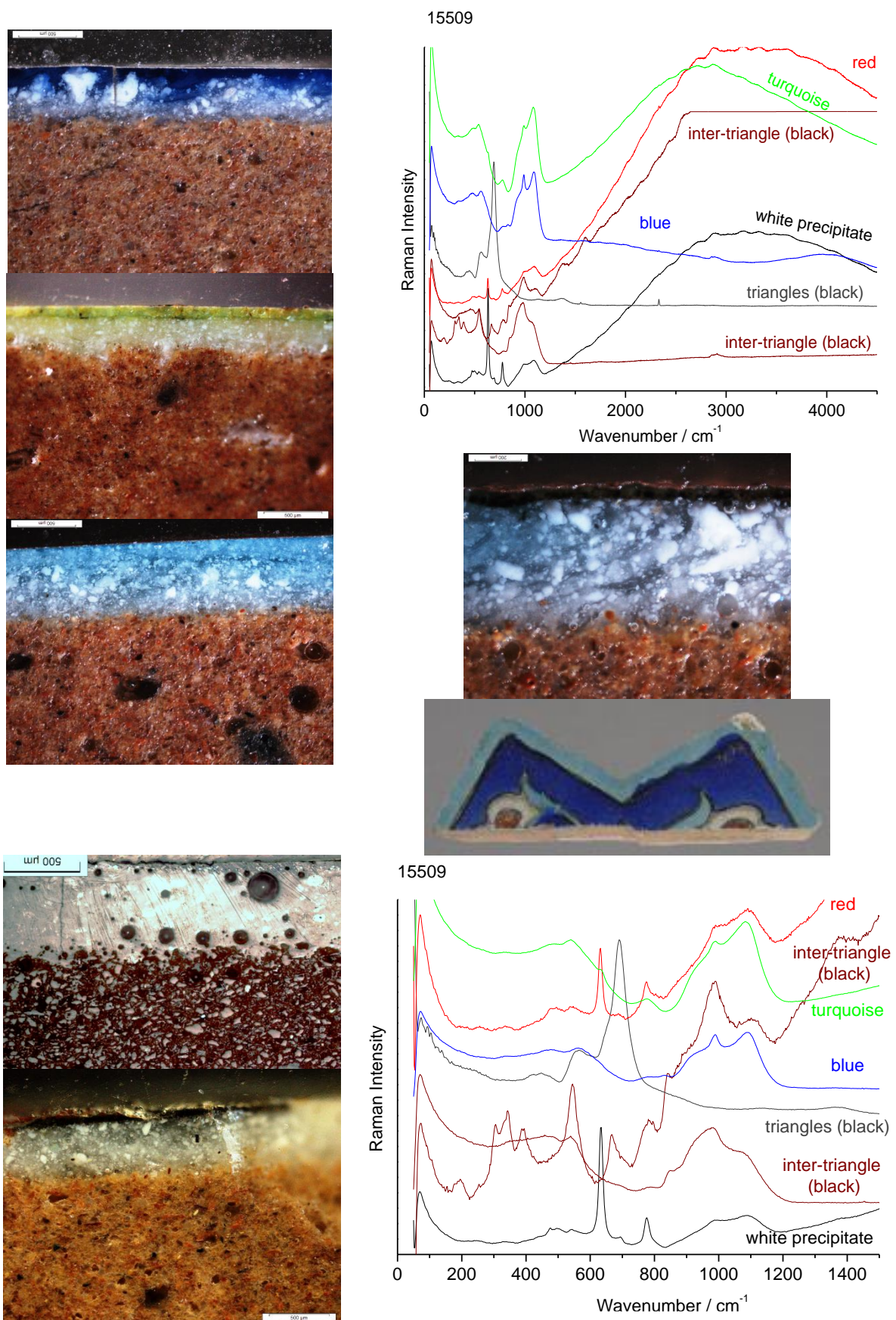


**Figure S13:** 458 nm laser excitation, MAO 936/319 a *mina'i* dish fragment, Iran, end of 12<sup>th</sup>-beginning of 13<sup>th</sup> century, from Kiefer' shard collection. Purchase Jean Soustiel, 1995.



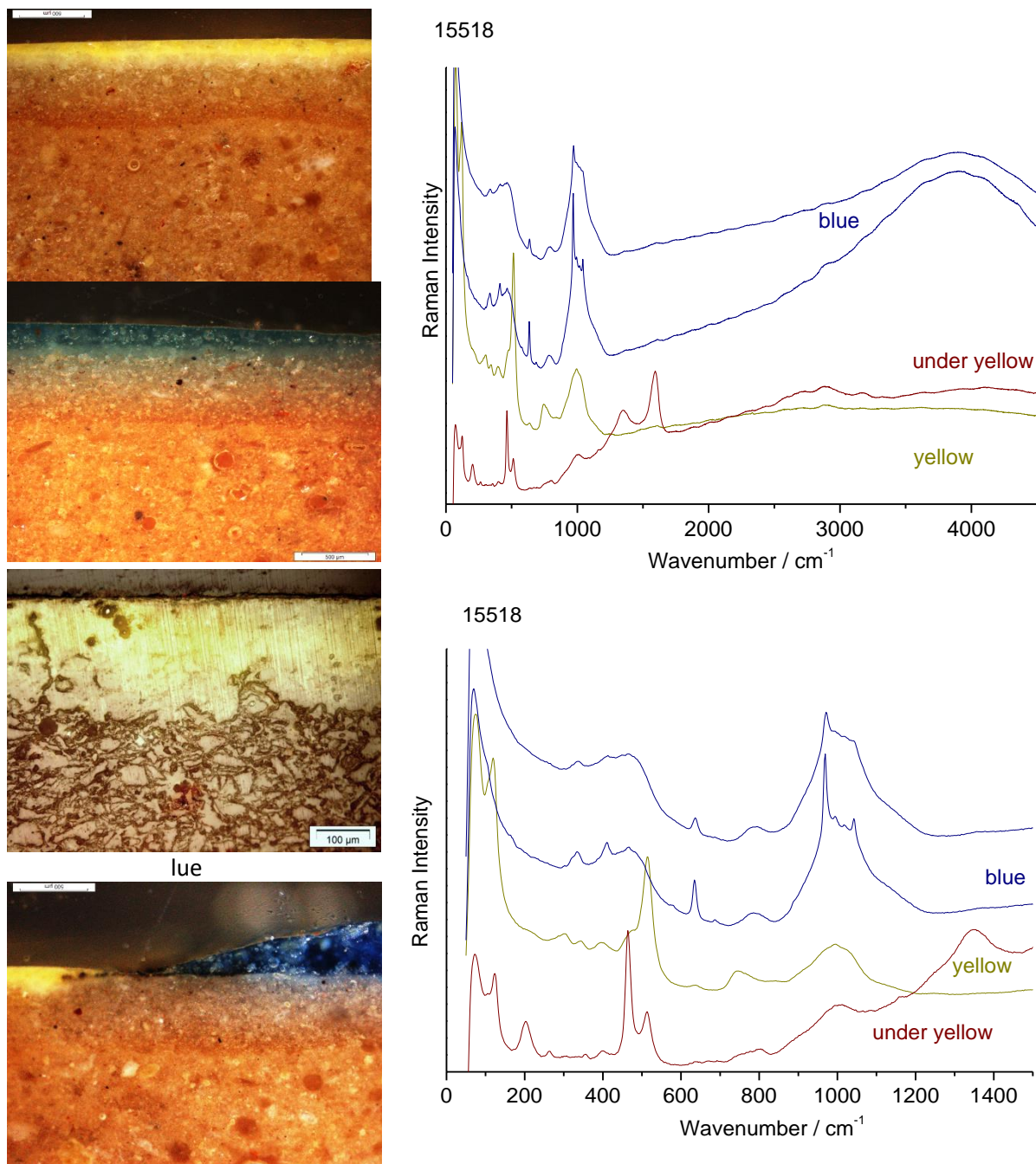
**Figure S14:** 458 nm laser excitation, MAO 936/2002, tile fragment from Allahverdikhan/New Julfâ district?, Isfahan, Iran, 17<sup>th</sup> century, from Kiefer' shard collection. Purchase Jean Soustiel, 1995.



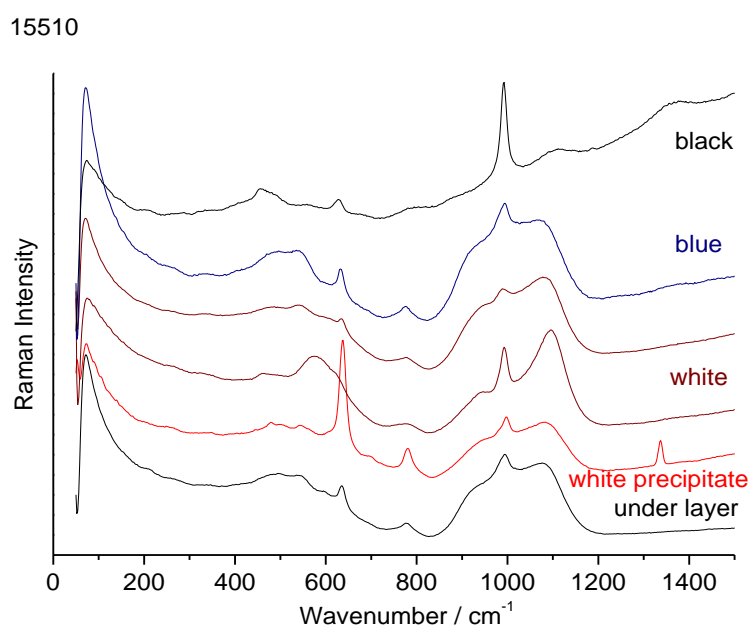
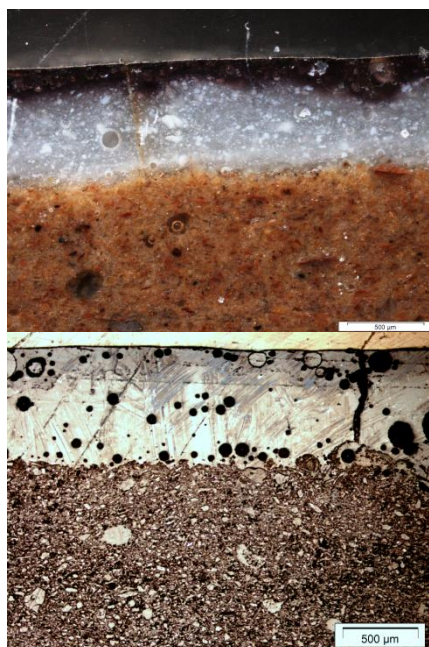
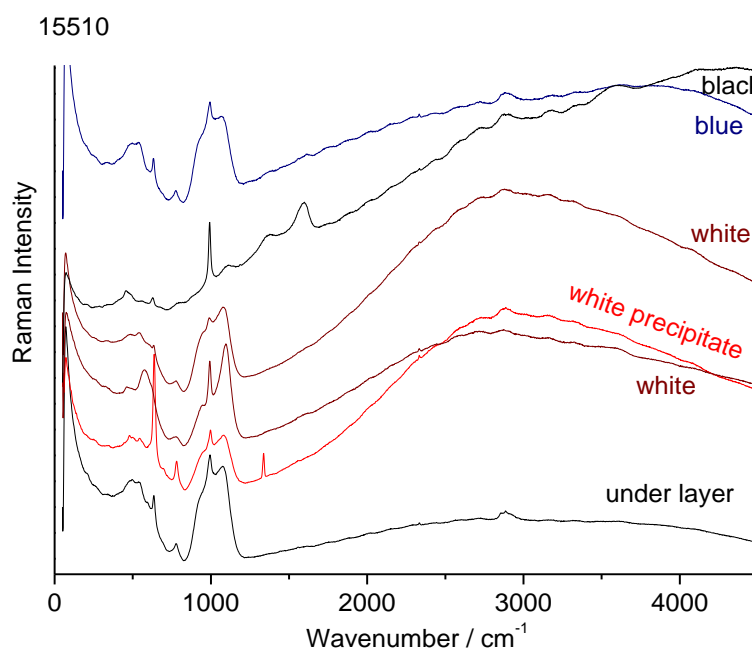


**Figure S15:** 458 nm laser excitation, MAO 936/573, tile fragment from Khargerd (El Ghiyathiyya madrasa ?), Transoxiana, 15<sup>th</sup> century, from Kiefer' shard collection. Purchase Jean Soustiel, 1995.



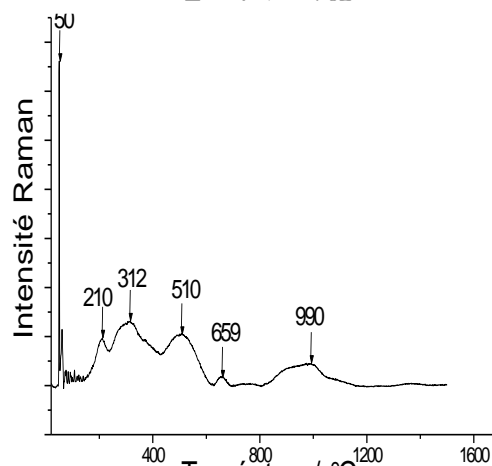
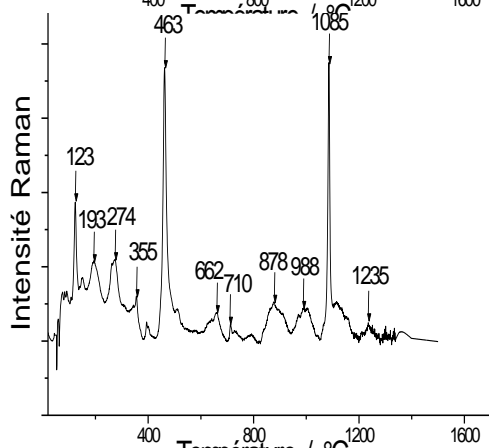
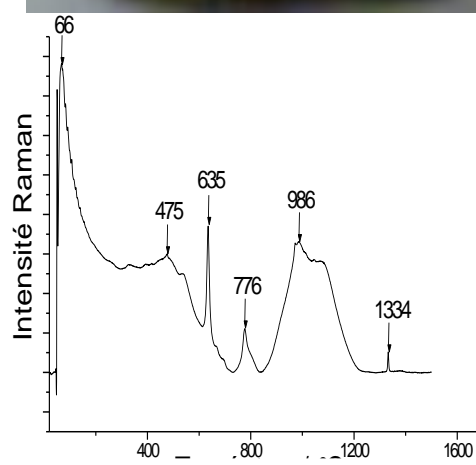
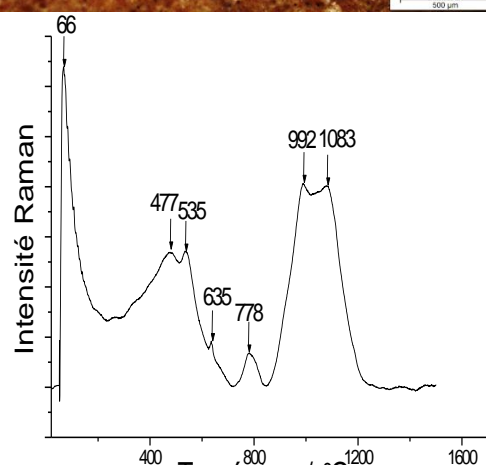
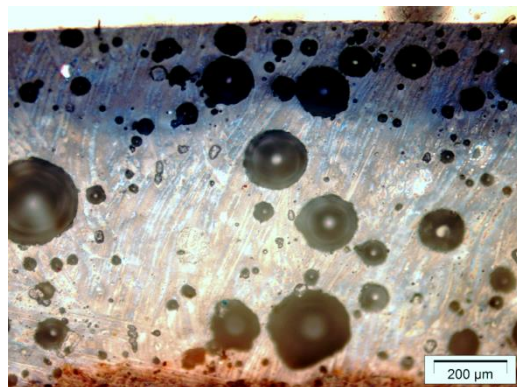
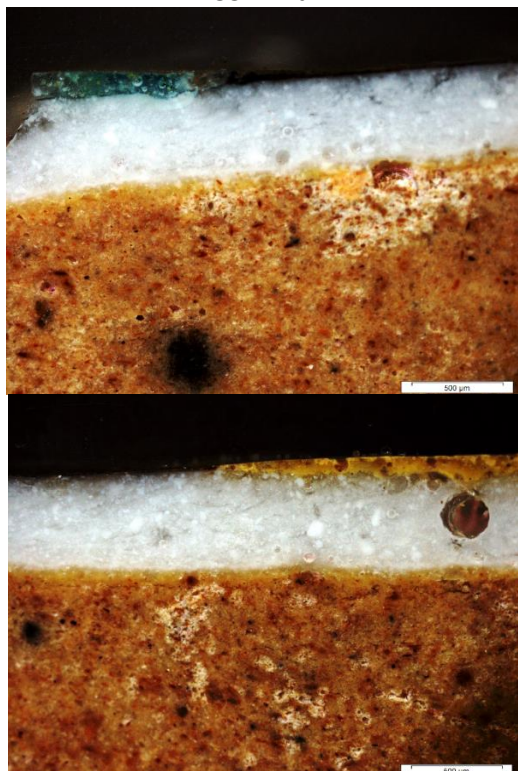


**Figure S16:** 458 nm laser excitation, unassignedAD 15518 tile fragment.



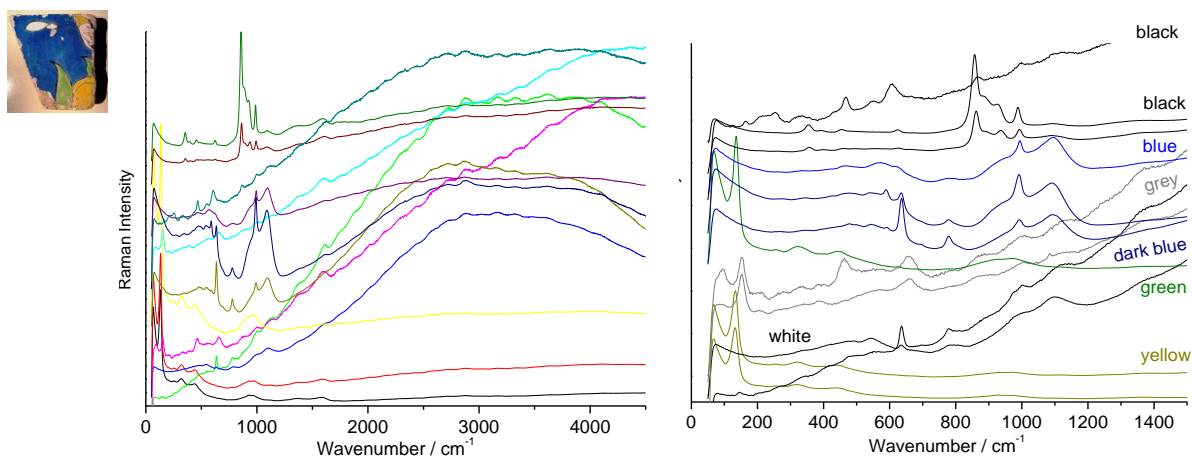
**Figure S17:** 458 nm laser excitation, MAO 936/576 tile fragment from Samarkand, (Bibi Khânum?), Uzbekistan, 15<sup>th</sup> century, from Kiefer' shard collection (CK 0405). Purchase Jean Soustiel, 1995.

15512 iran

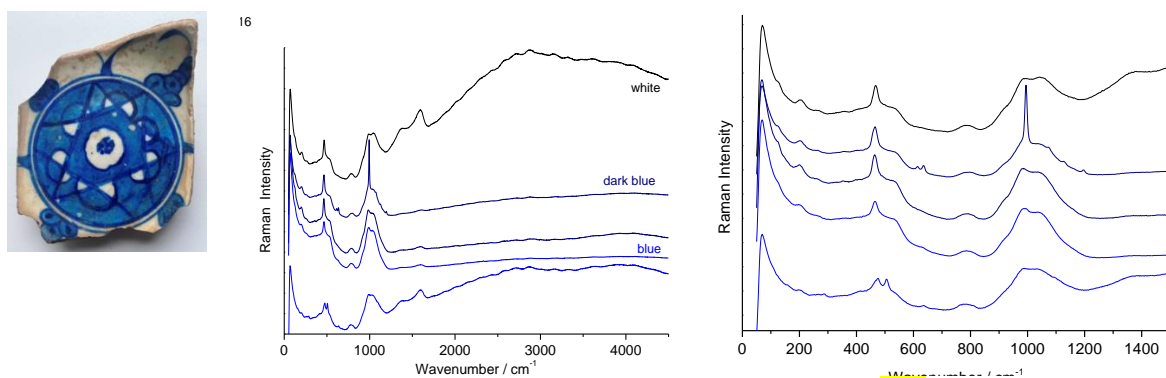


**Figure S18:** 532 nm laser excitation, after baseline subtraction, MAO 936/594, tile fragment from Iran, Isfahan, 17<sup>th</sup>-19<sup>th</sup> century, from Kiefer' shard collection (CK 0150). Purchase Jean Soustiel, 1995.

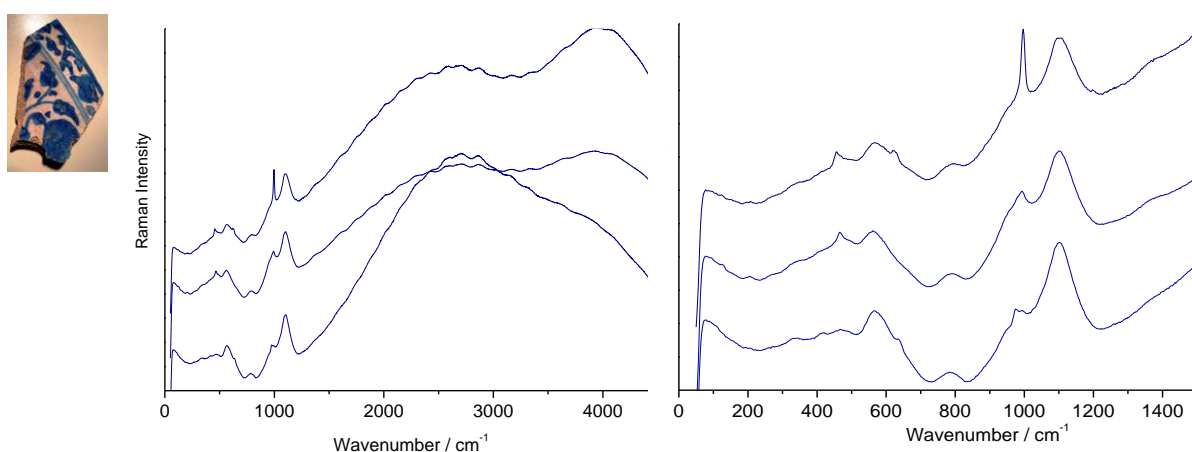




**Figure S19:** 458 nm laser excitation, tile fragment, Iran, 17<sup>th</sup> century, from Soustiel' shard collection.



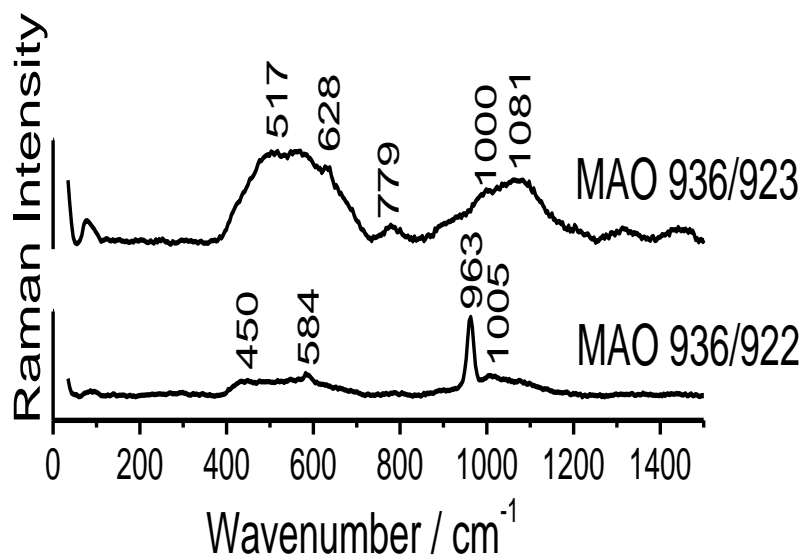
**Figure S20:** 458 nm laser excitation, Baba Nakas-style dish fragment, Iznik, 16<sup>th</sup> century, from Soustiel' shard collection. T16



**Figure S21:** 458 nm laser excitation, Safavids dish fragment, Iran, 17<sup>th</sup> century, from Soustiel' shard collection.

b

**Spectra recorded under 532 nm excitation;  
a baseline subtraction has been made**



**Figure S22:** 532 nm laser excitation: **White** - Asie Central Asia 15th c.



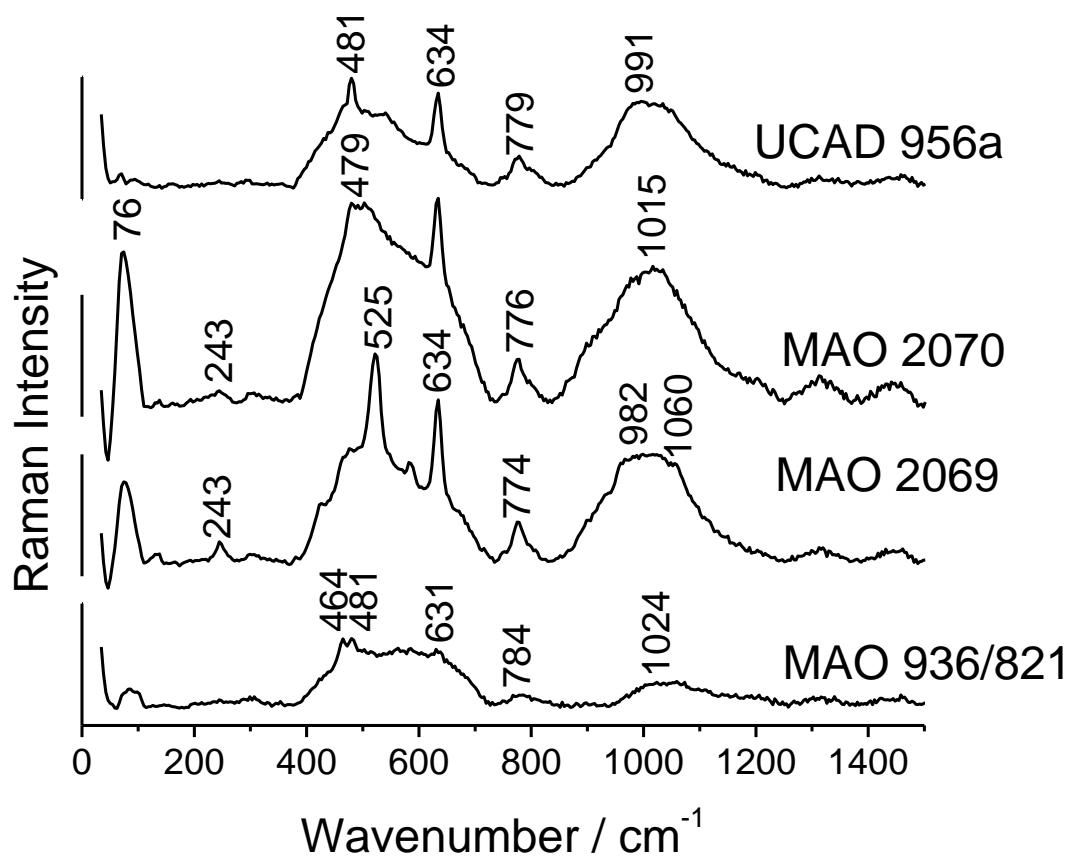


Figure S23: 532 nm laser excitation: **White** – Anatolia 15<sup>th</sup> c.

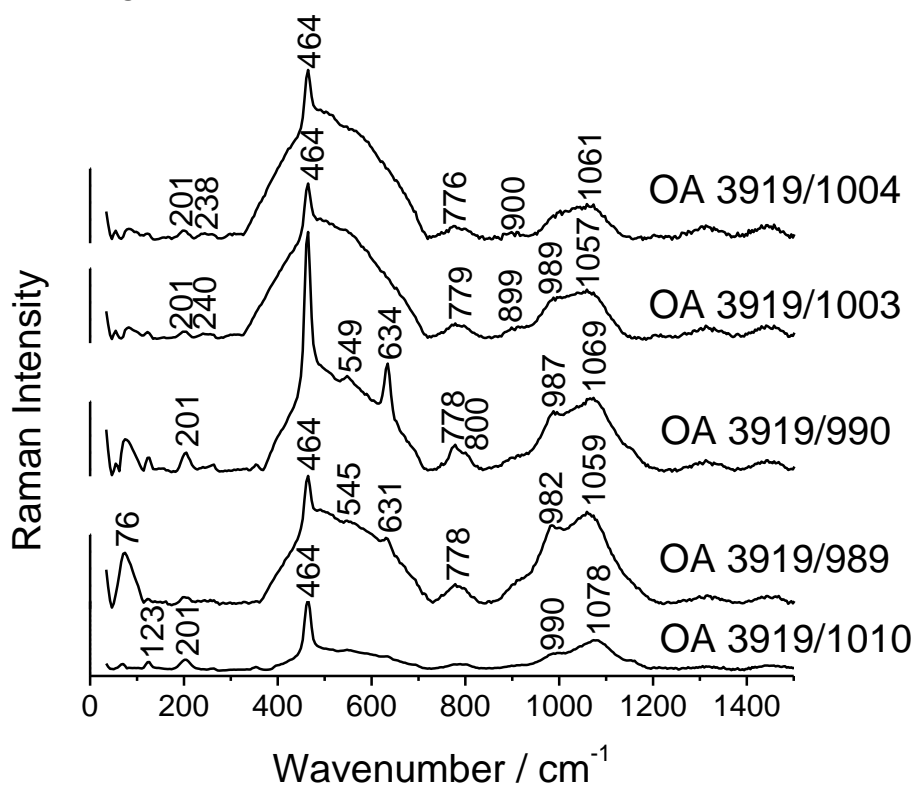
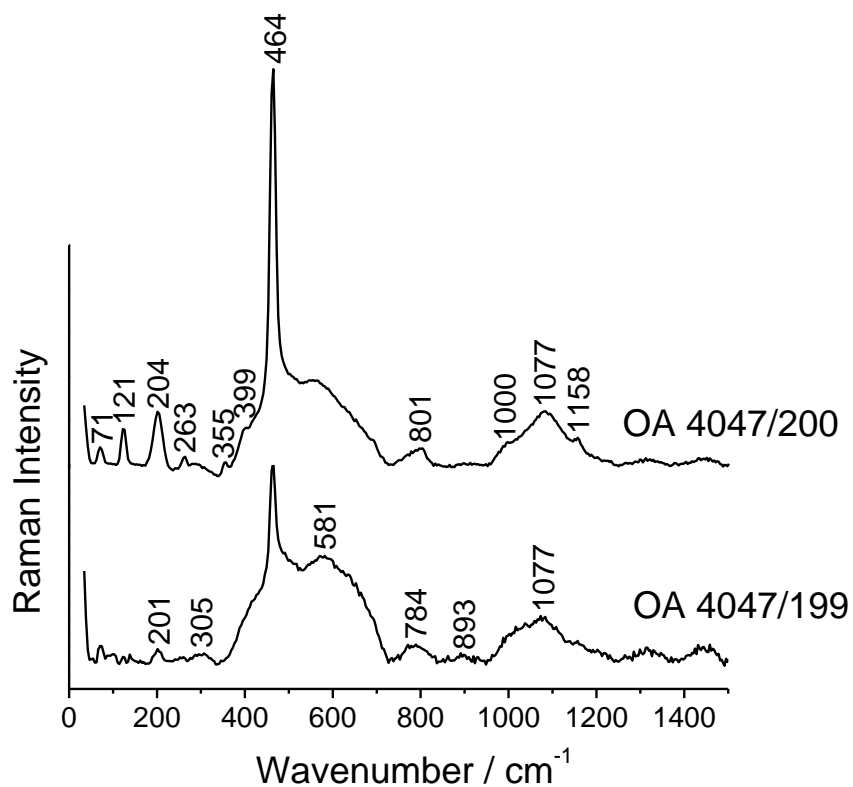
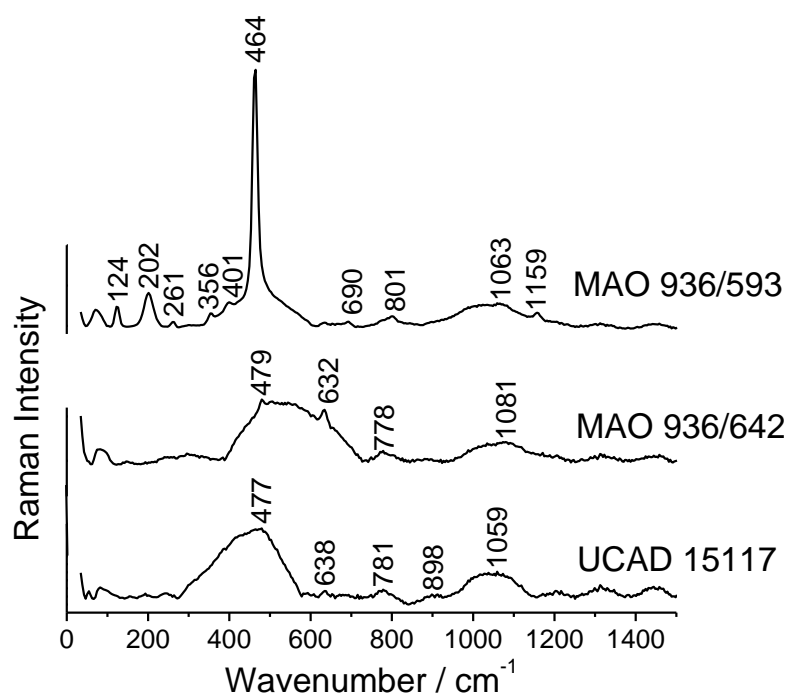


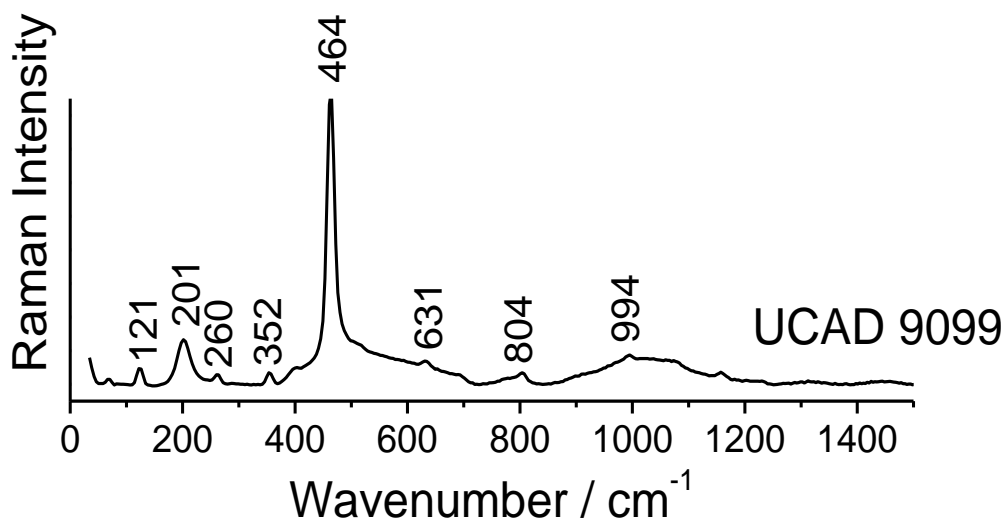
Figure S24: 532 nm laser excitation: **White**- Anatolia 16<sup>th</sup> c.



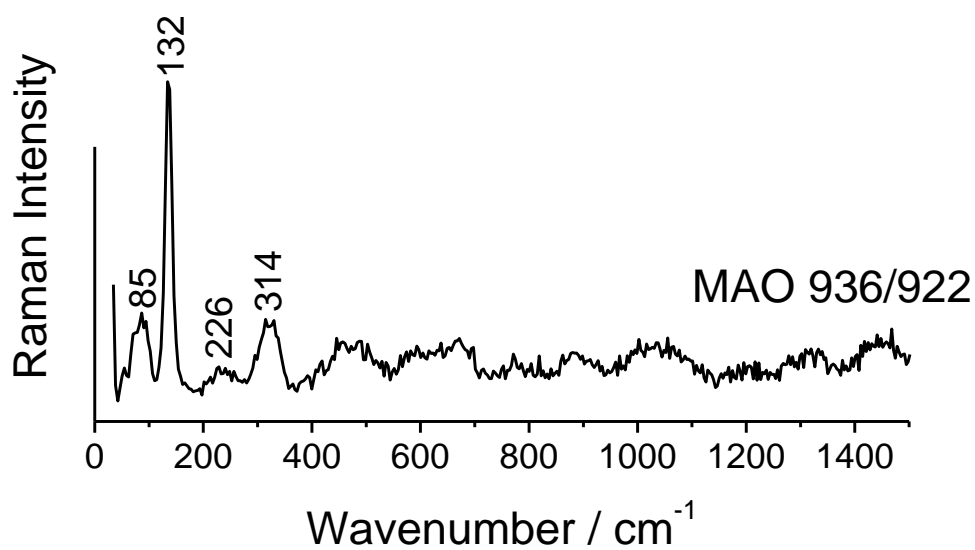
**Figure S25:** 532 nm laser excitation: **White** – Rock Dom mosque, 16th c.



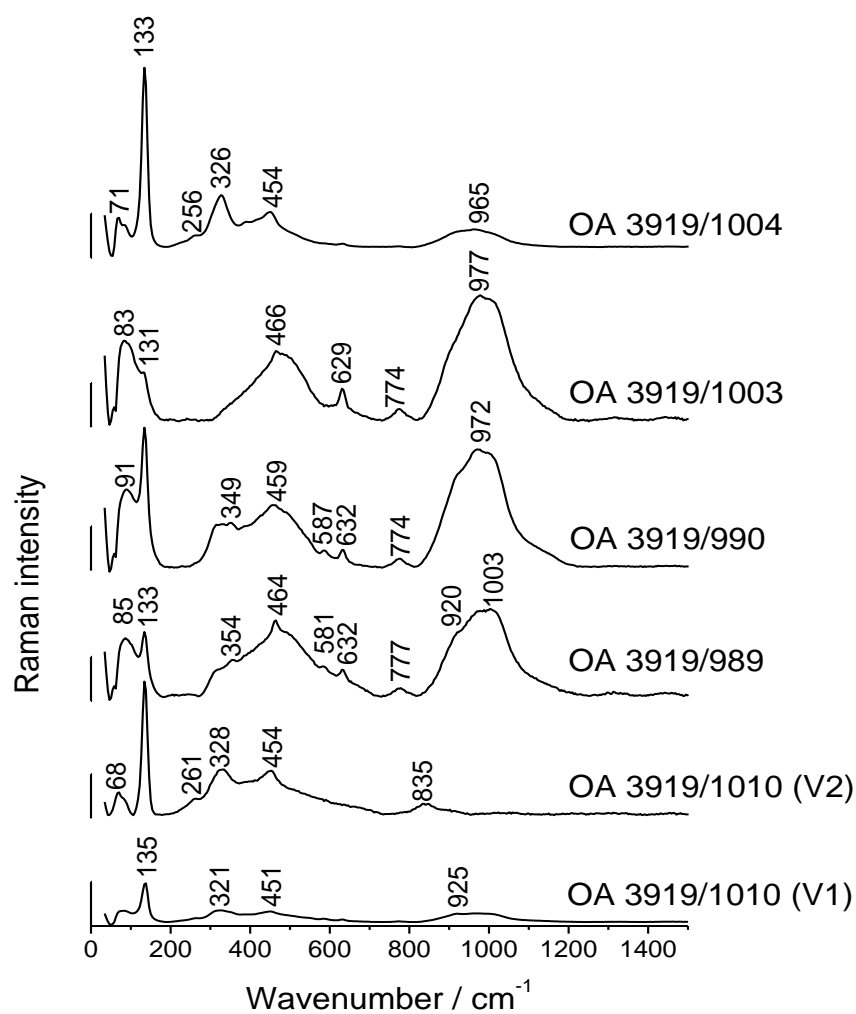
**Figure S26:** 532 nm laser excitation: **White** - Iran Safavids, 17<sup>th</sup> c.



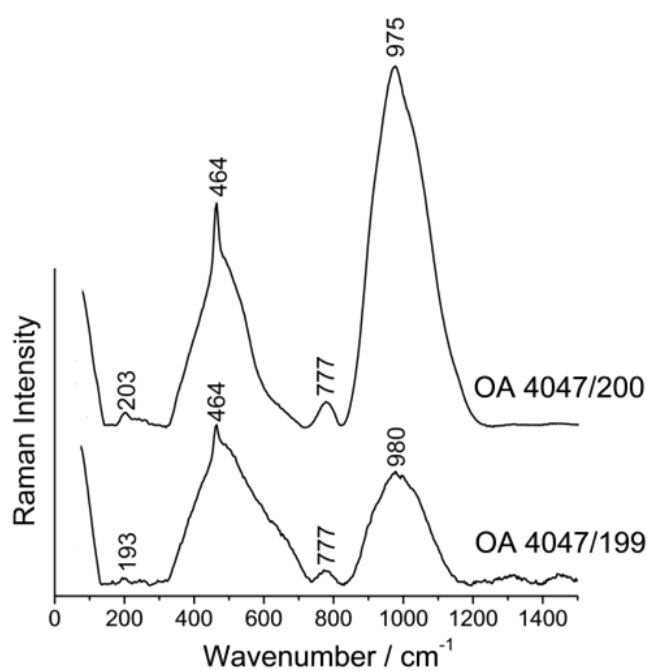
**Figure S27:** 532 nm laser excitation: White – Caucase, beginning of 19<sup>th</sup> c.



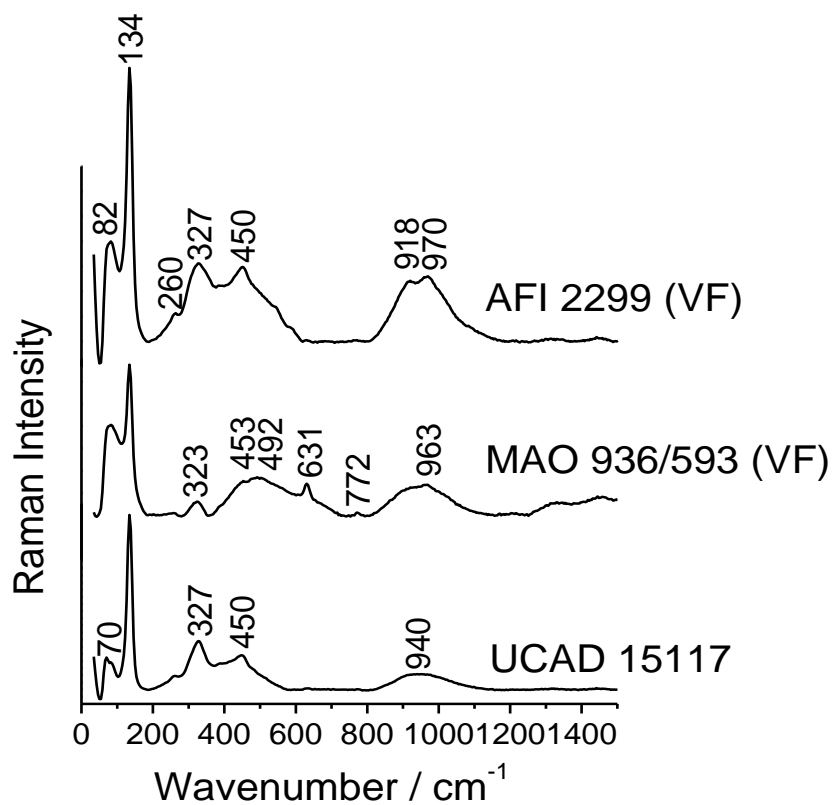
**Figure S28:** 532 nm laser excitation: **Green** – Central Asia 15<sup>th</sup> c.



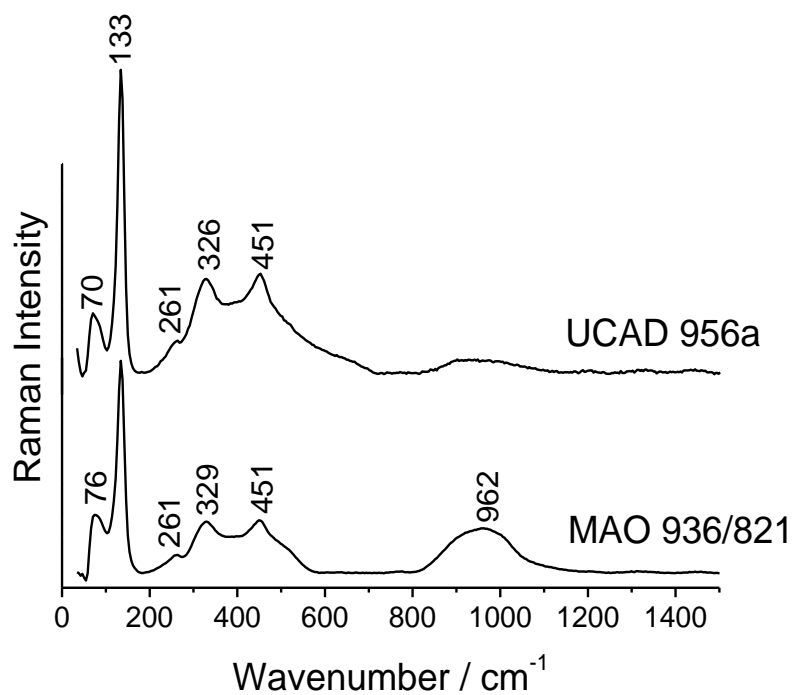
**Figure S29:** 532 nm laser excitation: **Green** – Anatolia, 16th c.



**Figure S30:** 532 nm laser excitation: **Green** - Rock Dom mosque, 16<sup>th</sup> c.

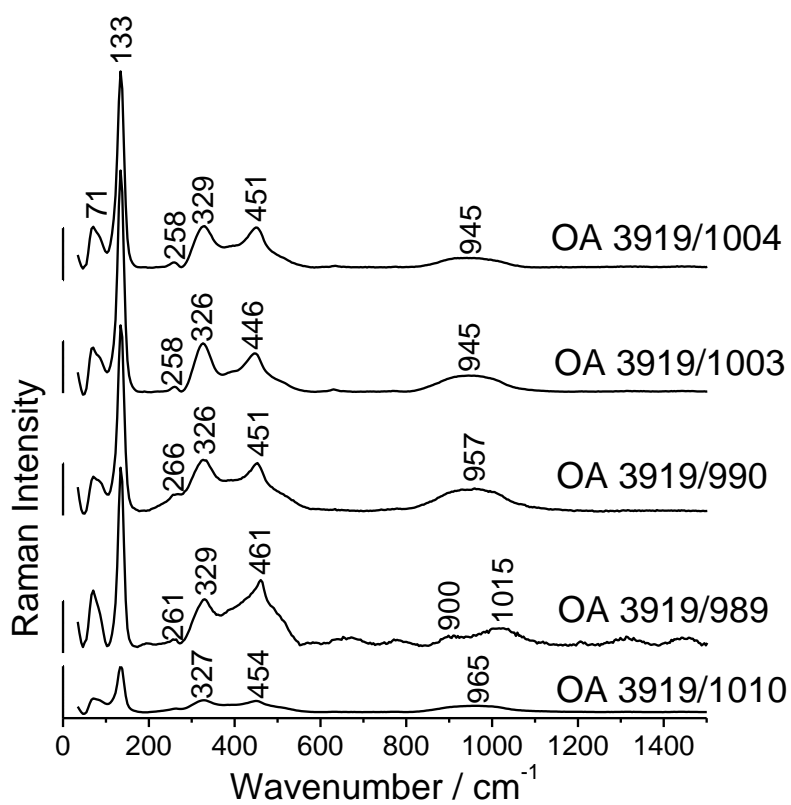


**Figure S31:** 532 nm laser excitation: **Green** – Iran, Safavids, 17th c.

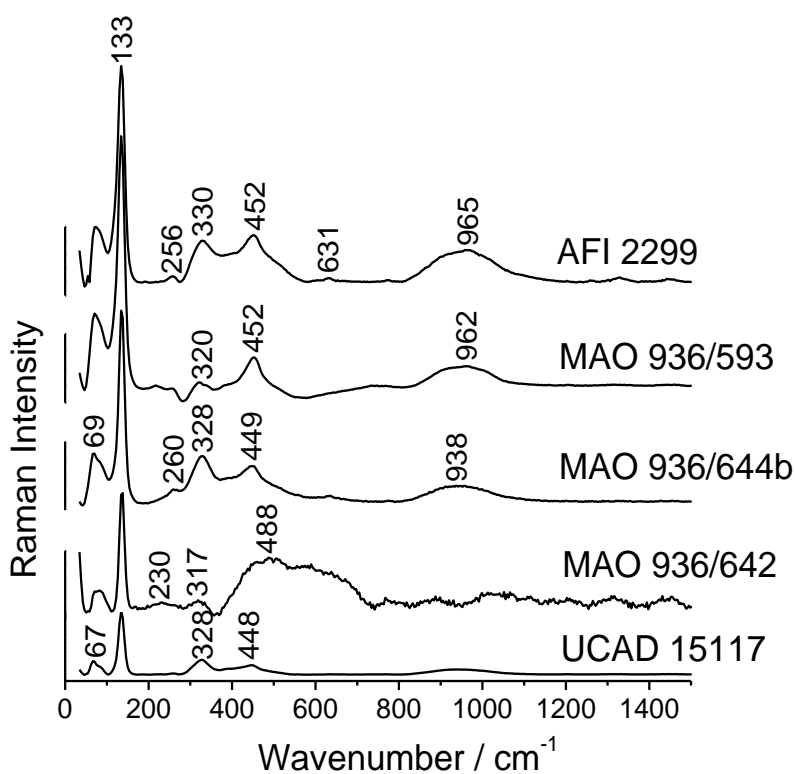


**Figure S32:** 532 nm laser excitation: **Yellow** – Anatolia, 15<sup>th</sup> c.

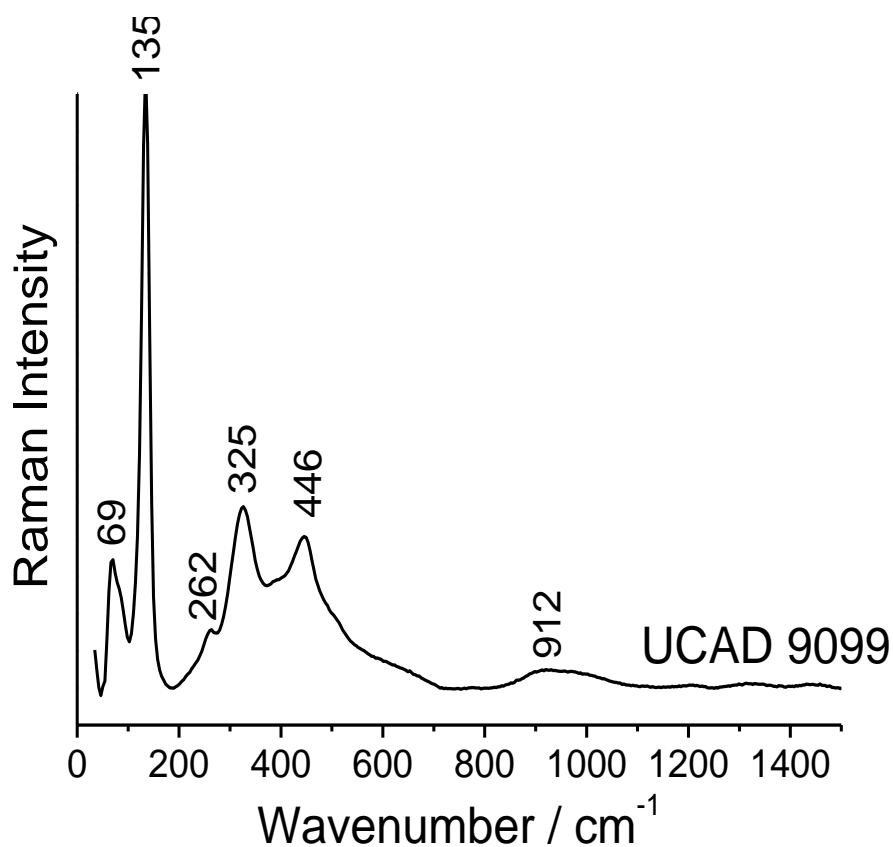




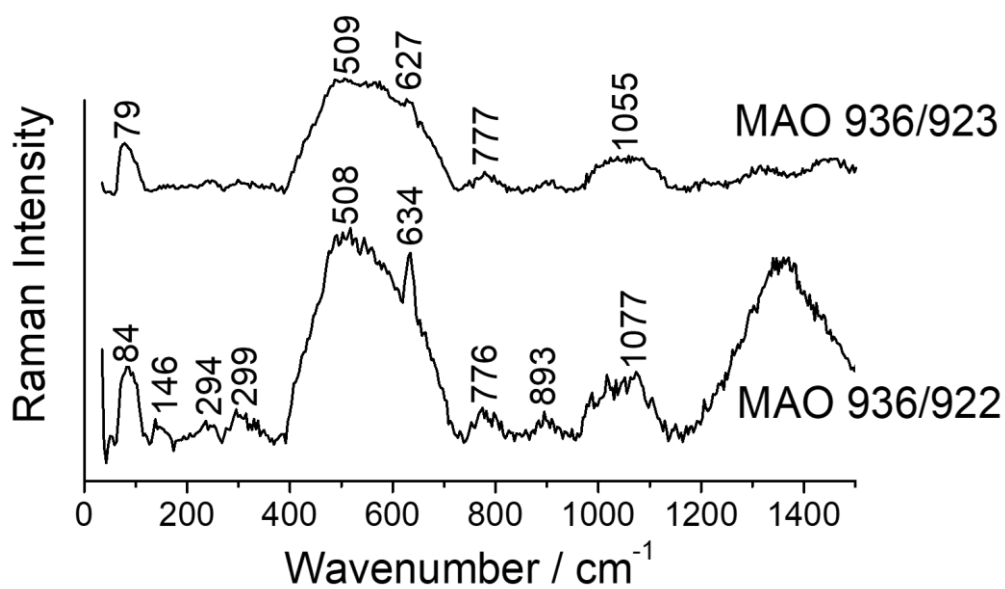
**Figure S33:** 532 nm laser excitation: **Yellow** – Anatolia, 16<sup>th</sup> c.



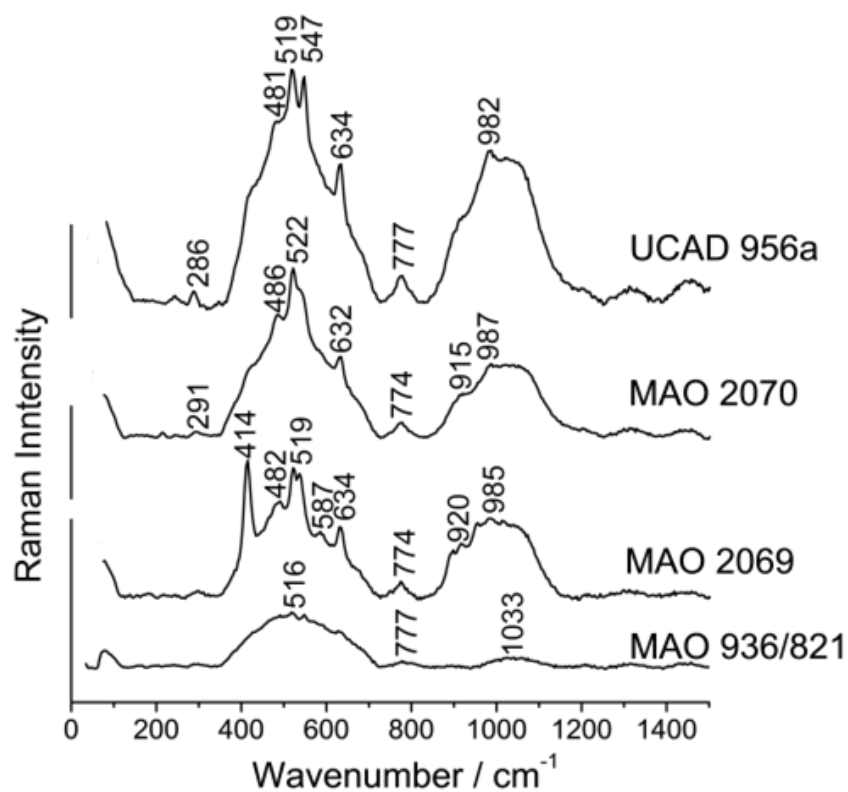
**Figure S34:** 532 nm laser excitation: **Yellow** – Iran, Safavids, 17<sup>th</sup> c.



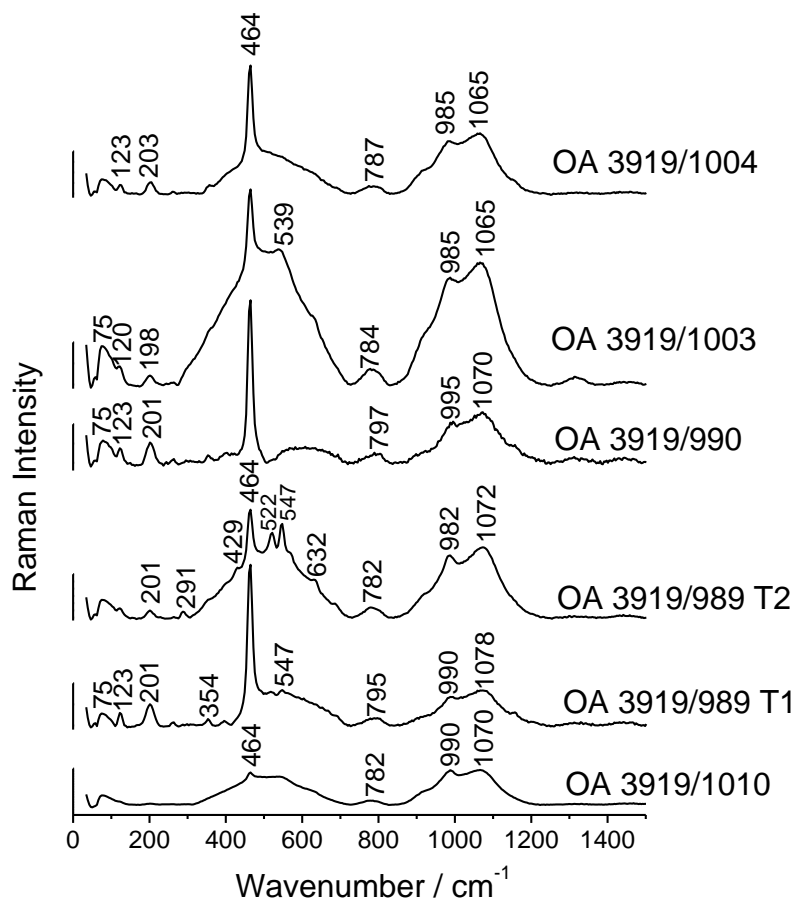
**Figure S35:** 532 nm laser excitation: **Yellow** - Caucase, beginning of 19<sup>th</sup> c.



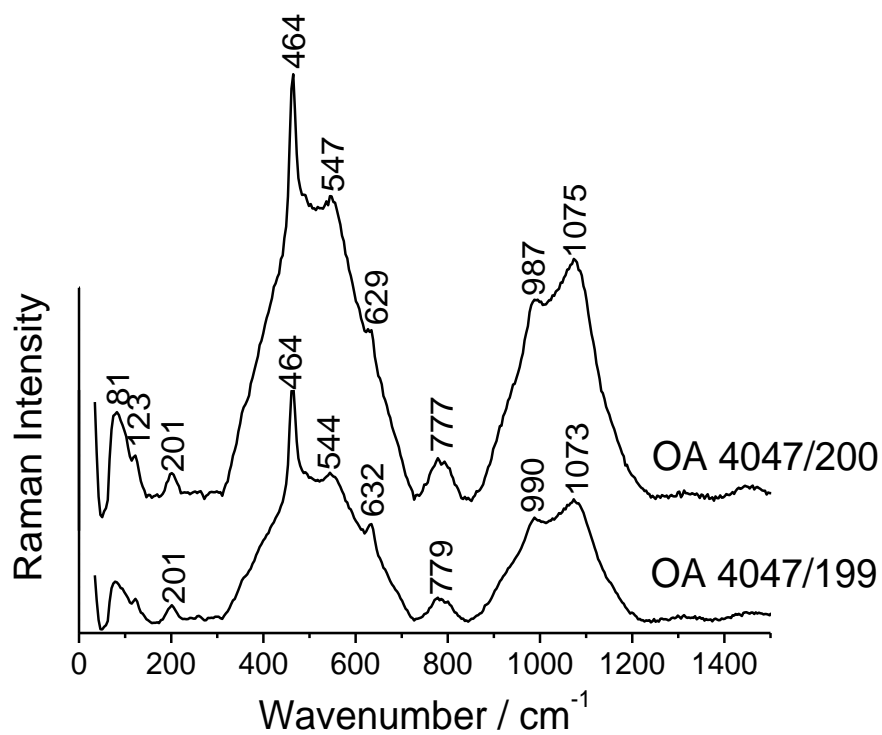
**Figure S36:** 532 nm laser excitation: **Turquoise** – Central Asia, 15<sup>th</sup> c.



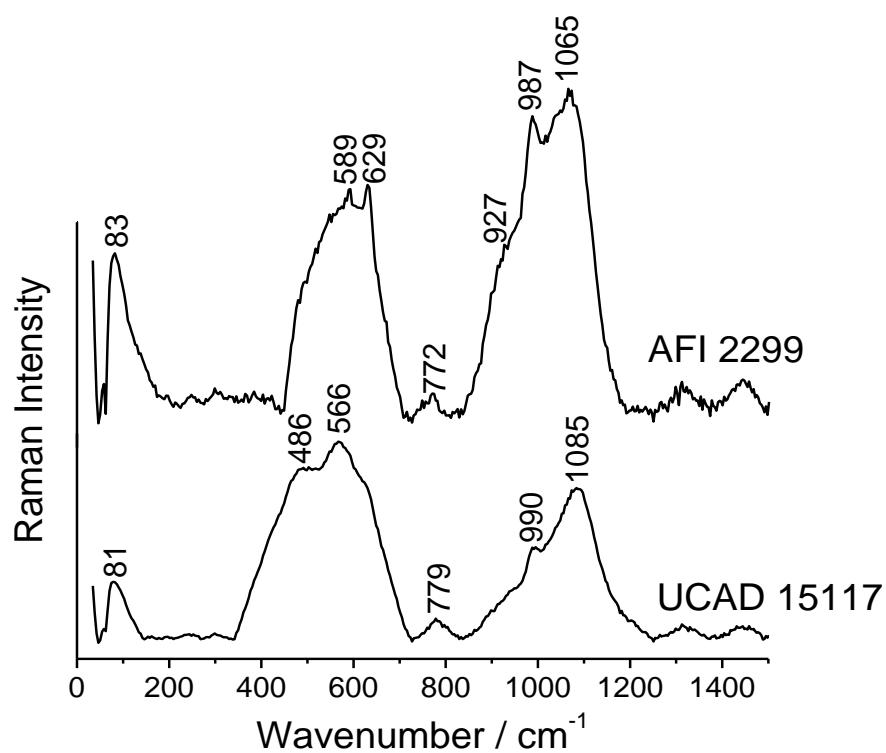
**Figure S37:** 532 nm laser excitation: **Turquoise** – Anatolia, 15<sup>th</sup> c.



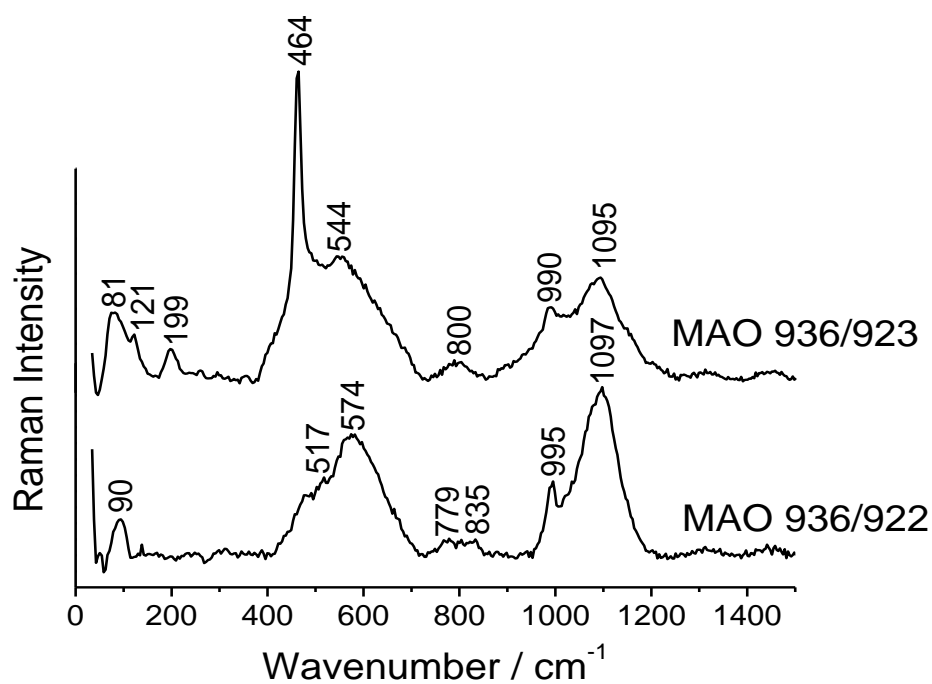
**Figure S38:** 532 nm laser excitation: **Turquoise** – Anatolia, 16<sup>th</sup> c.



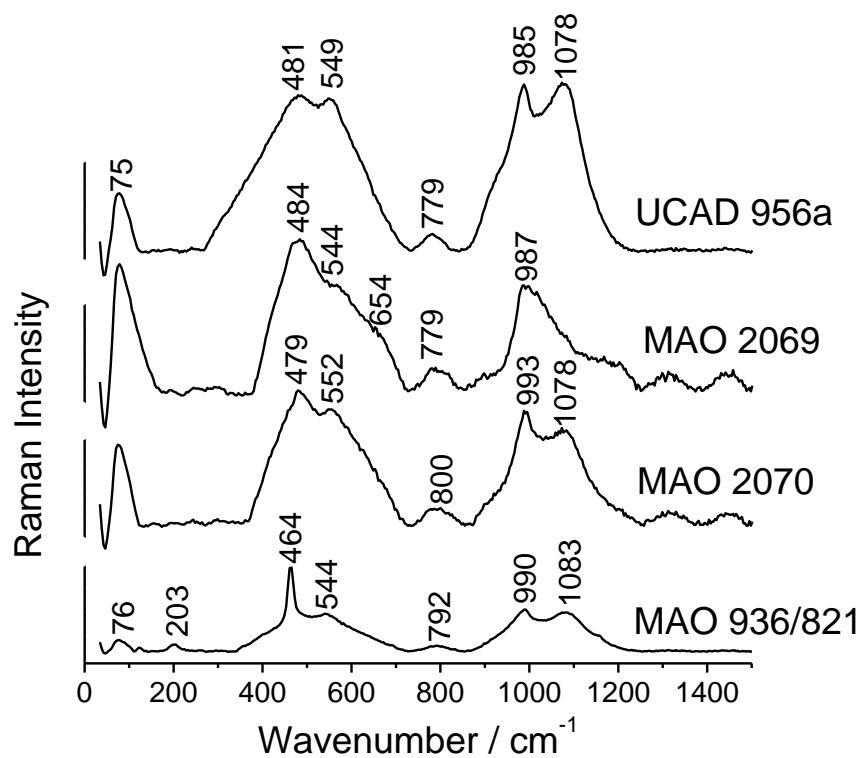
**Figure S39:** 532 nm laser excitation: **Turquoise** – Rock Dom mosque, 16<sup>th</sup> c.



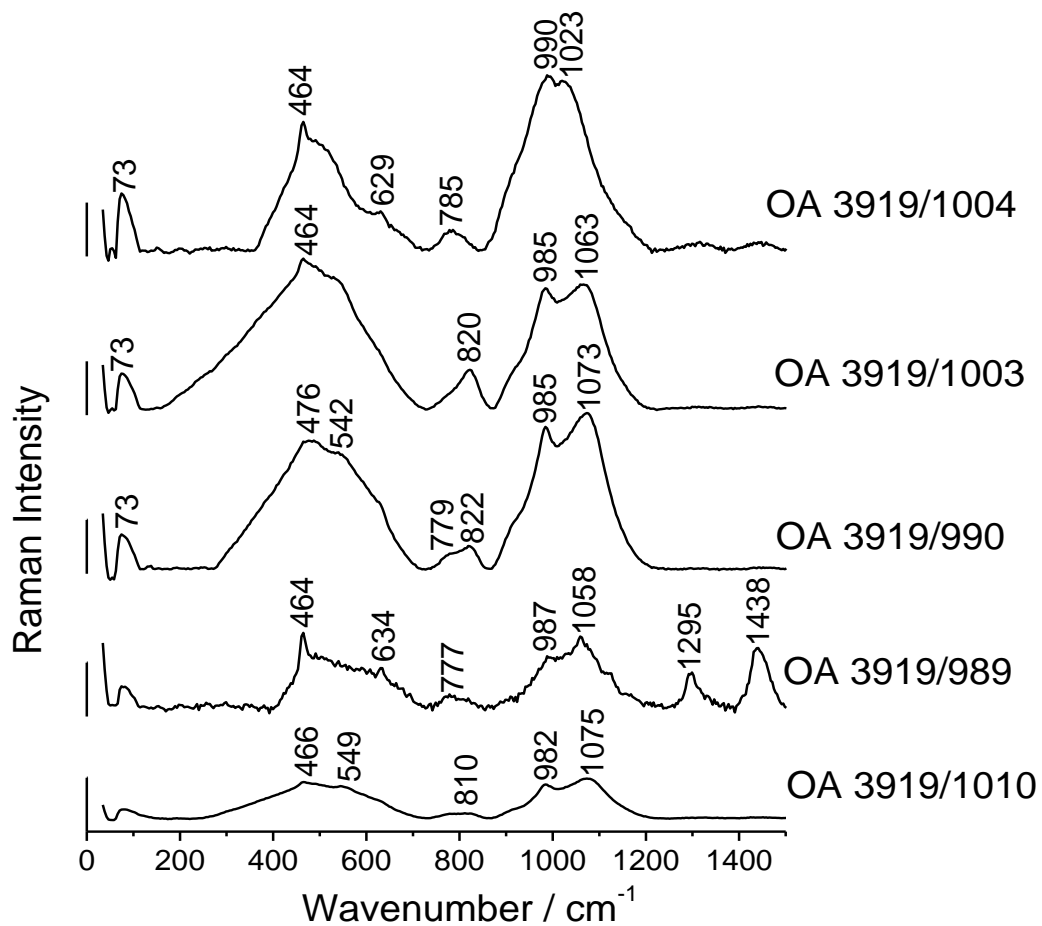
**Figure S40:** 532 nm laser excitation: **Turquoise** – Iran, Safavids, 17<sup>th</sup> c.



**Figure S41:** 532 nm laser excitation: **Dark blue** – Central Asia, 15<sup>th</sup> c.

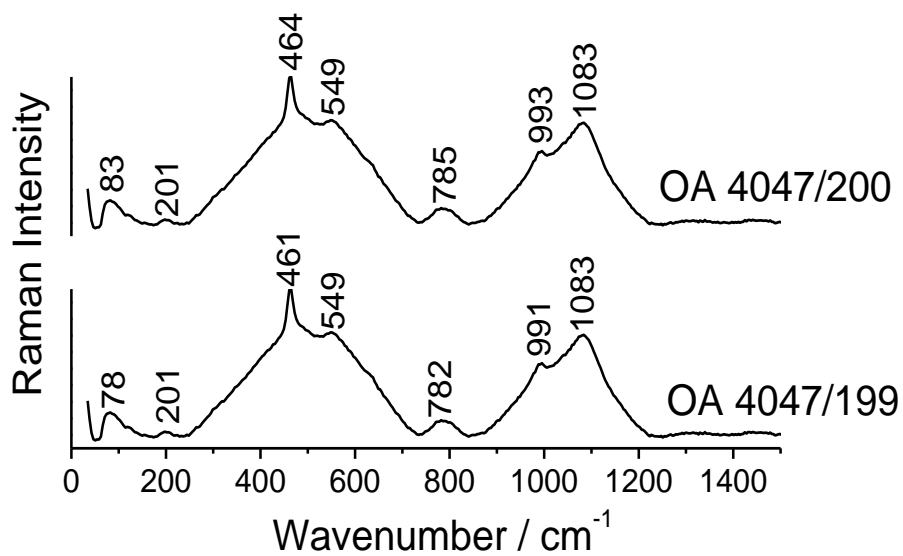


**Figure S42:** 532 nm laser excitation: **Dark blue**- Anatolia, 15<sup>th</sup> c.



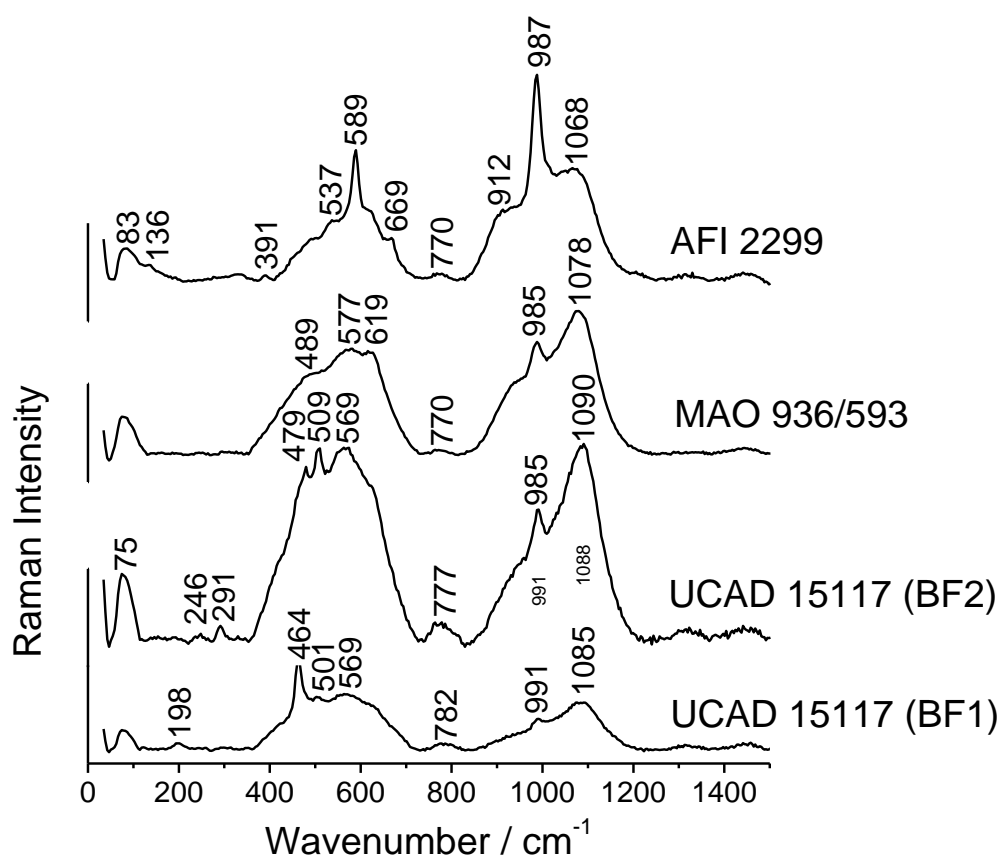
**Figure S43:** 532 nm laser excitation: **Dark blue** - Anatolia, 16<sup>th</sup> c.

**Bleu Foncé** - Dôme du Rocher, XVIe

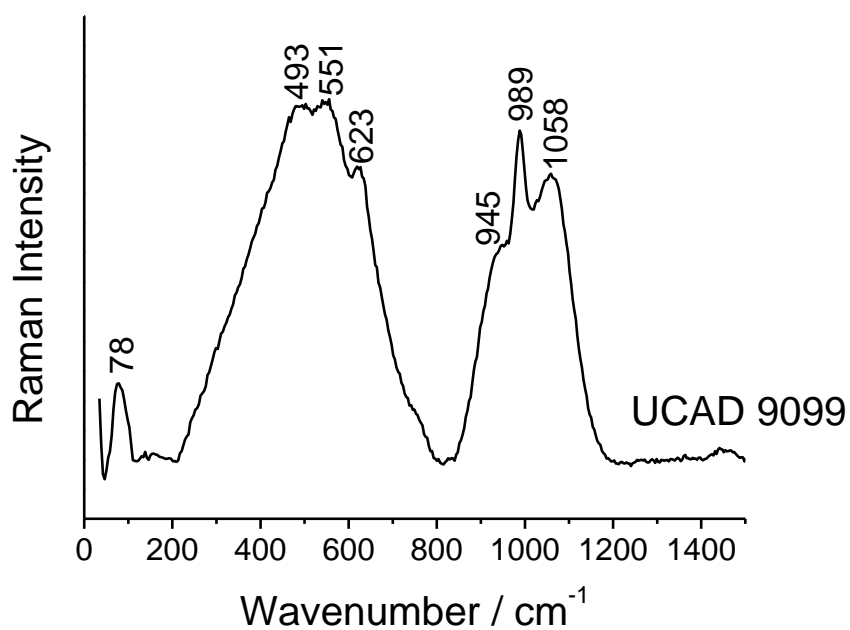


**Figure S44:** 532 nm laser excitation: **Dark blue** - Rock Dom mosque, 16<sup>th</sup> c.





**Figure S45:** 532 nm laser excitation: **Dark blue** - Iran, Safavids, 17<sup>th</sup> c.



**Figure S46:** 532 nm laser excitation: **Dark blue** - Caucase, beginning of 19<sup>th</sup> c.

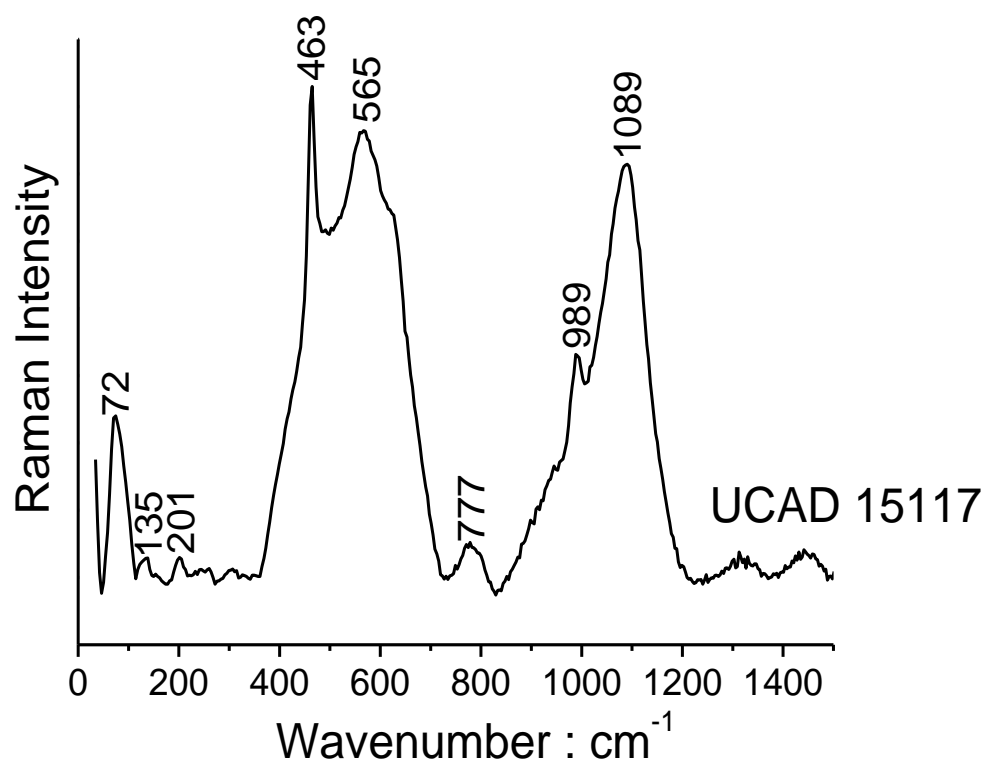


Figure S47: 532 nm laser excitation: **Light blue** - Iran, Safavids, 17th c

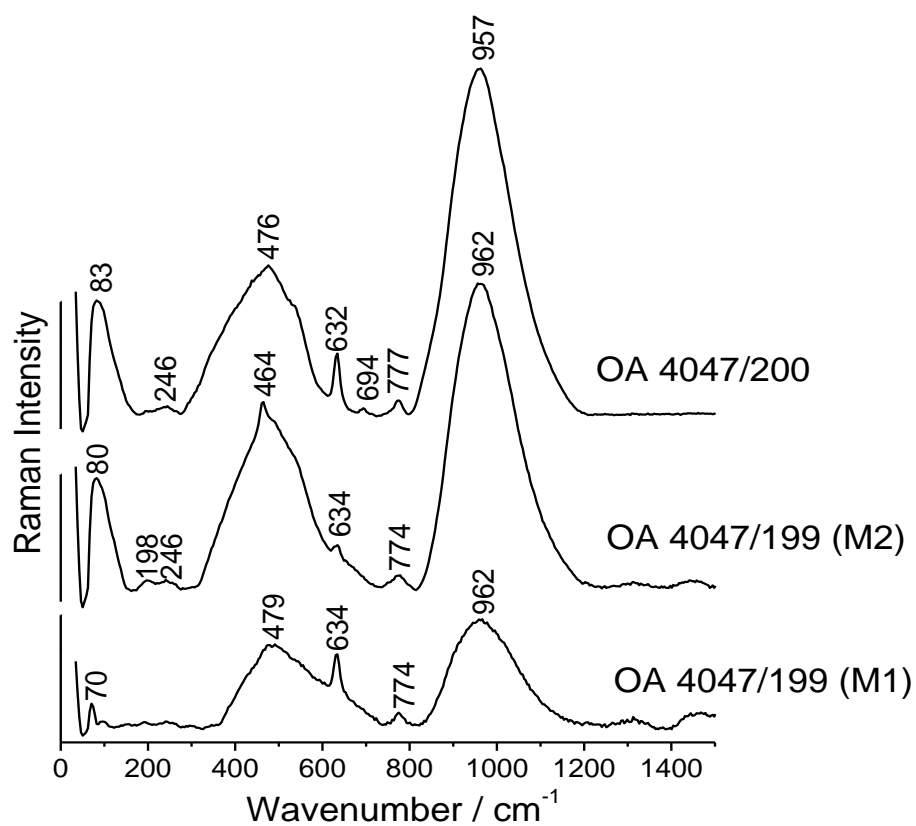
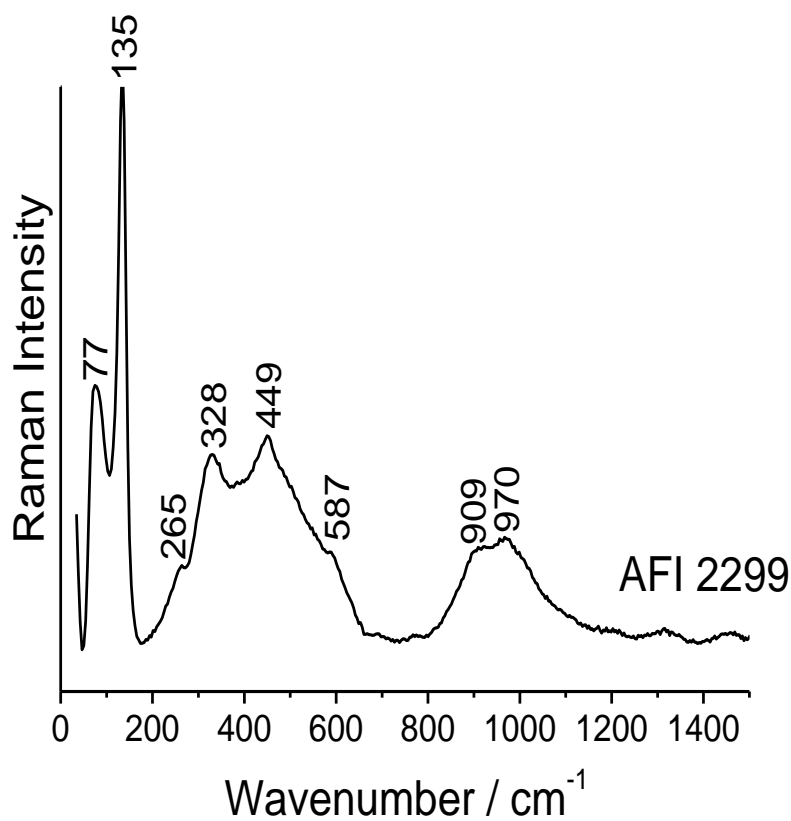
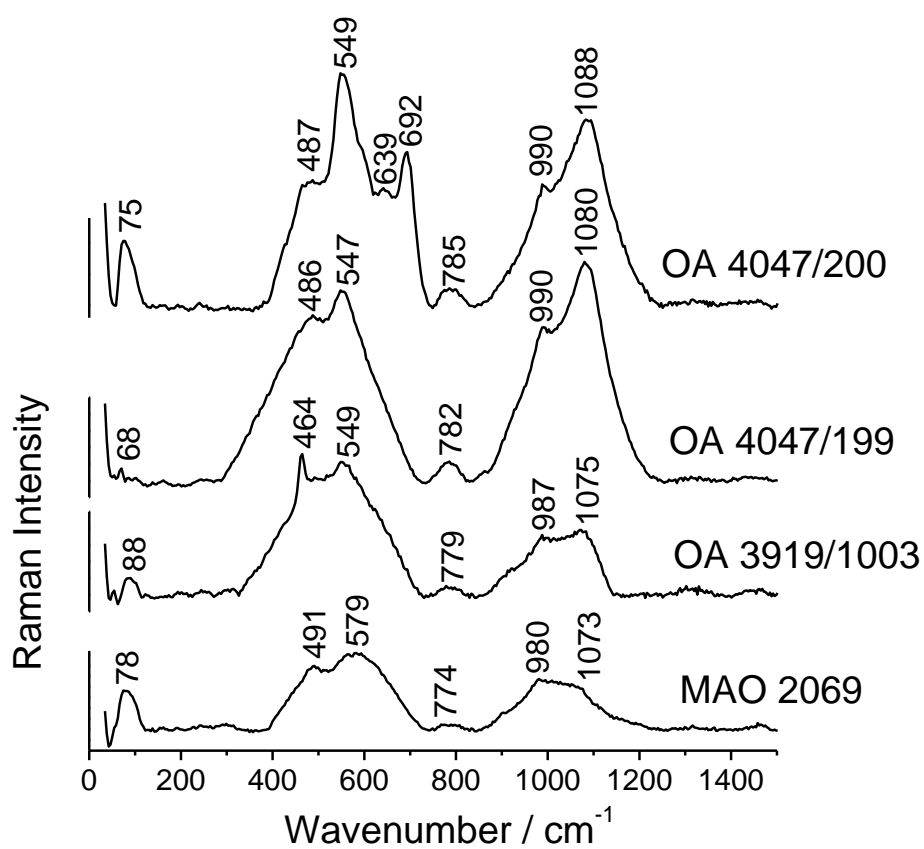


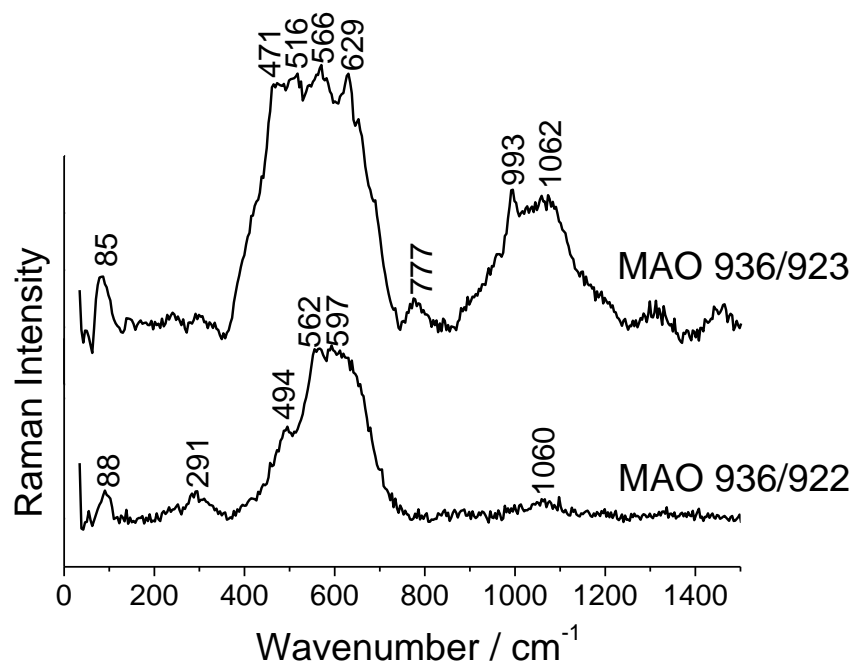
Figure S48: 532 nm laser excitation: **brown/honey** - Rock Dom mosque, 16<sup>th</sup> c



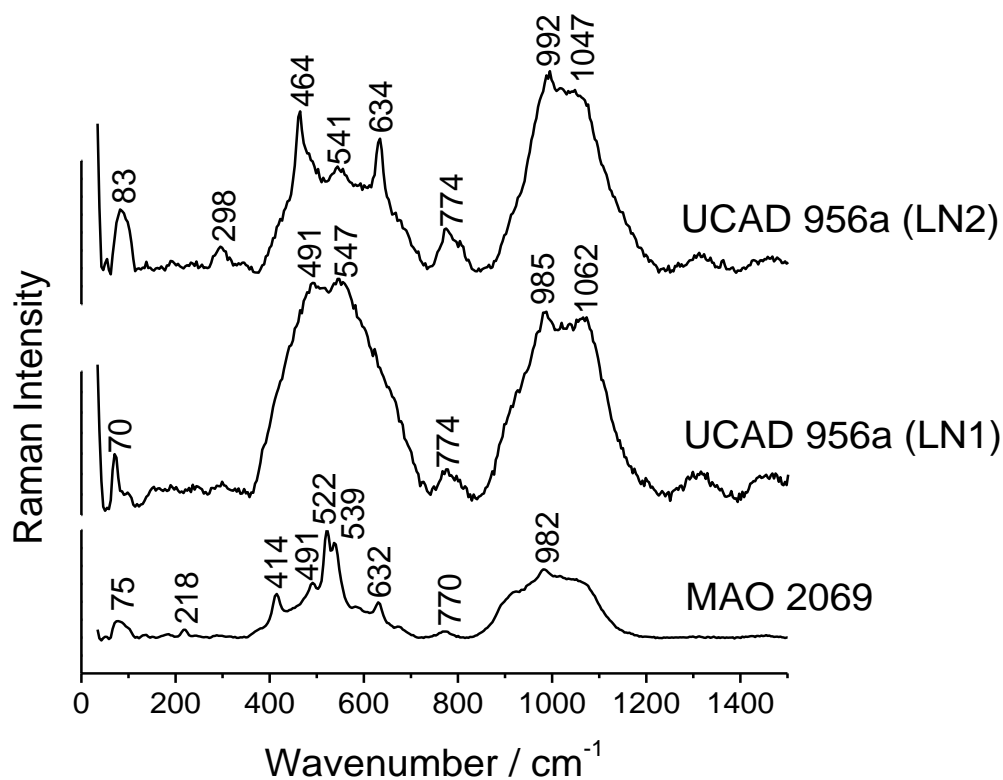
**Figure S49:** 532 nm laser excitation: **brown**, Iran, Safavids, 17<sup>th</sup> c.



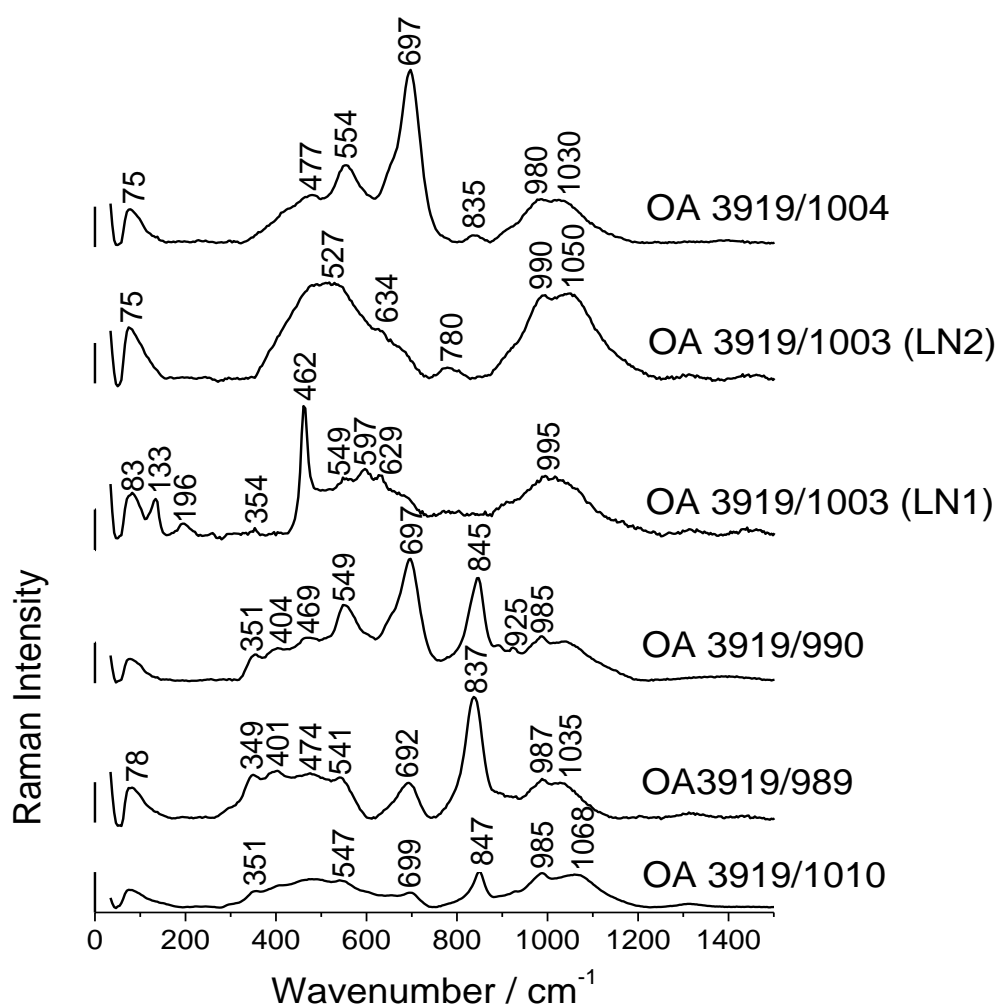
**Figure S50:** 532 nm laser excitation: **brown**, Anatolia 15<sup>th</sup> and Rock Dom mosque, 16<sup>th</sup> c.



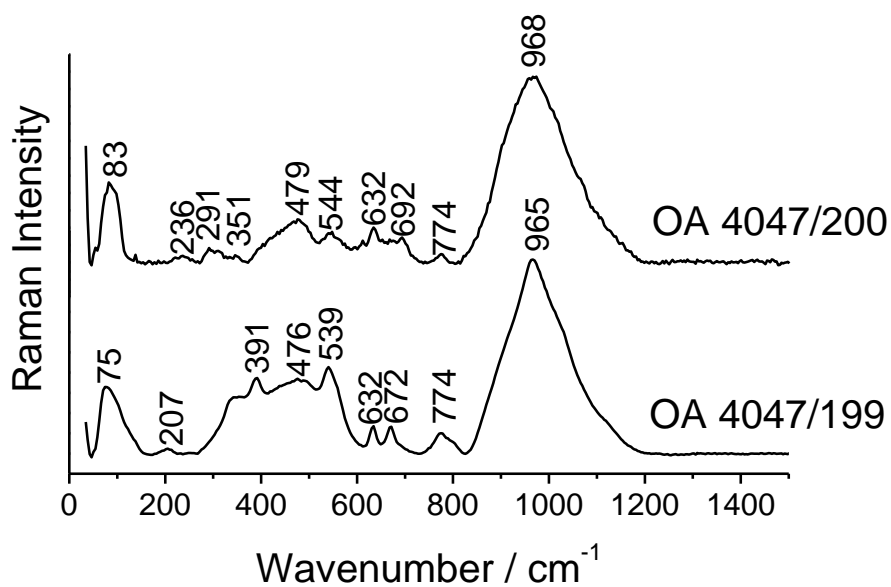
**Figure S51:** 532 nm laser excitation: **black** line, Central Asia, 15<sup>th</sup> c.



**Figure S52:** 532 nm laser excitation: **black** line, Anatolia, 15<sup>th</sup> c.

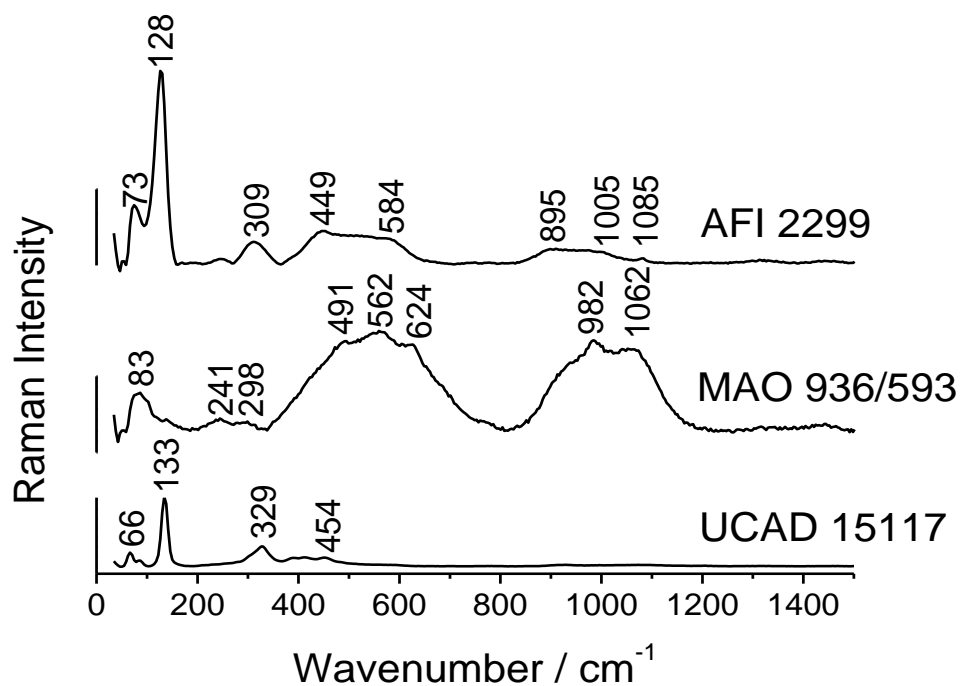


**Figure S53:** 532 nm laser excitation: **black** line, Anatolia, 16<sup>th</sup> c.

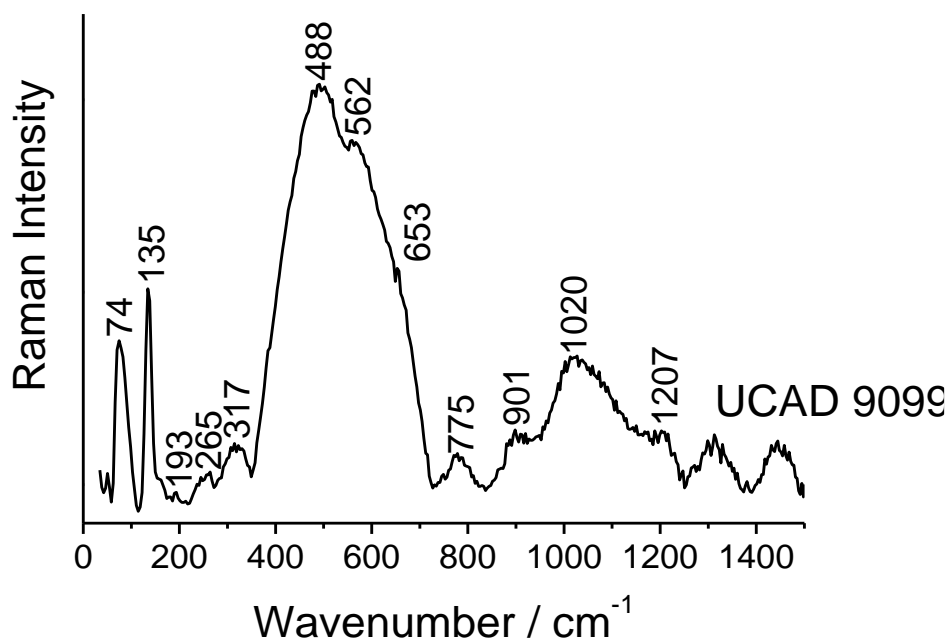


**Figure S54:** 532 nm laser excitation: **black** line, Rock Dom mosque, 16<sup>th</sup> c.

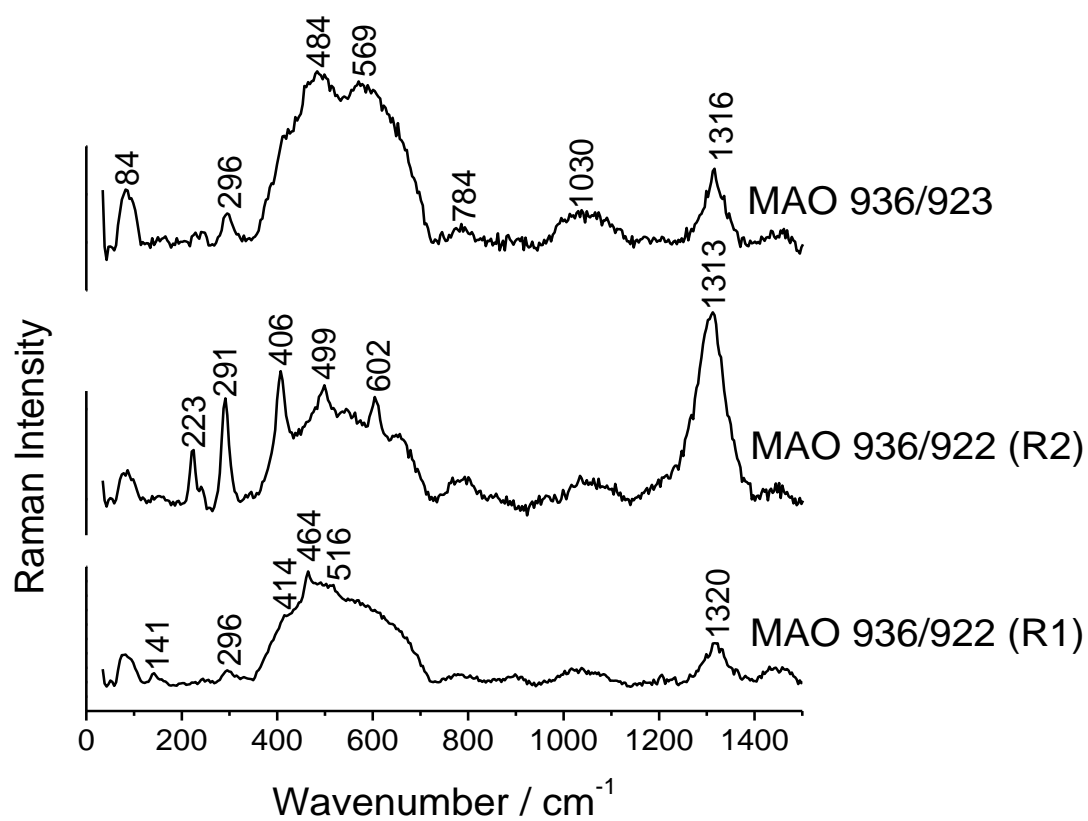




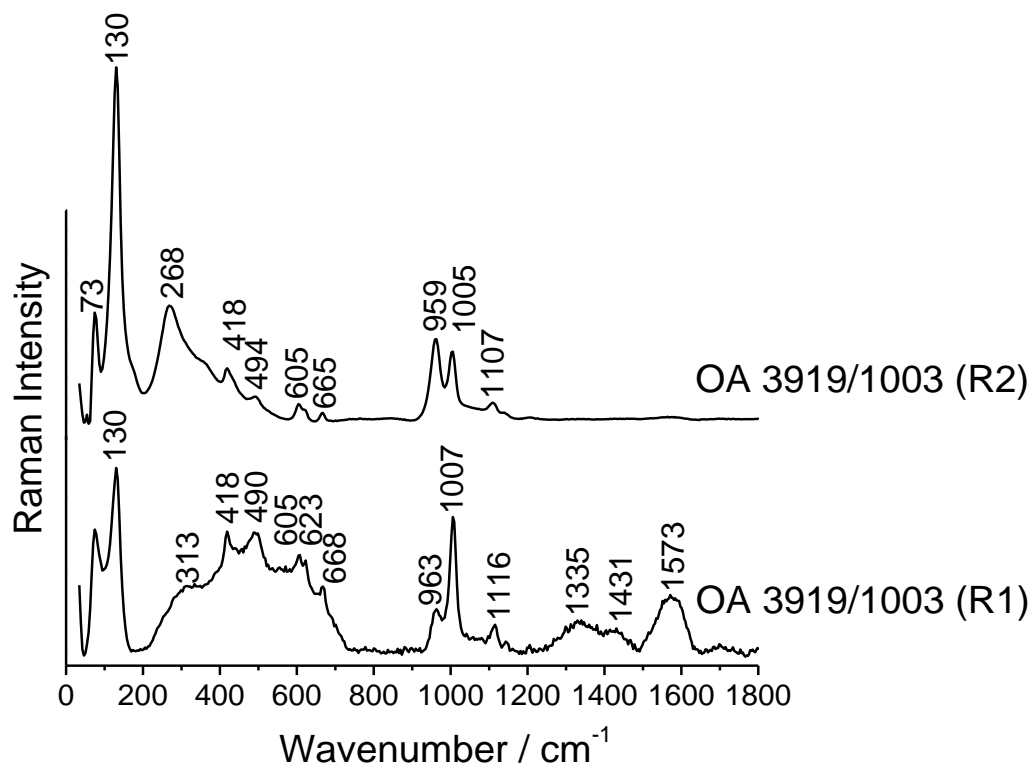
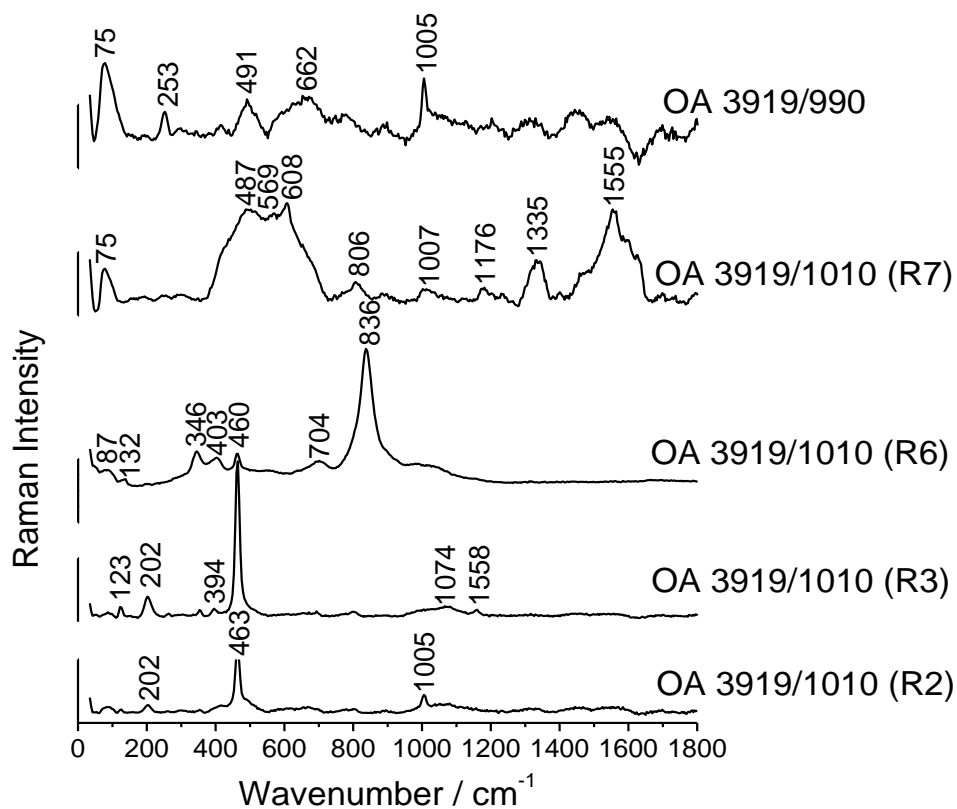
**Figure S55:** 532 nm laser excitation: **black** line, Iran, Safavids, 17<sup>th</sup> c.



**Figure S56:** 532 nm laser excitation: **black** line, Caucase, beginning of 19<sup>th</sup> c.



**Figure S57:** 532 nm laser excitation: **Red** – Central Asia 15<sup>th</sup> c.



**Figure S58:** 532 nm laser excitation: **Red** - Anatolia, 16<sup>th</sup> c.