

## Supplementary materials

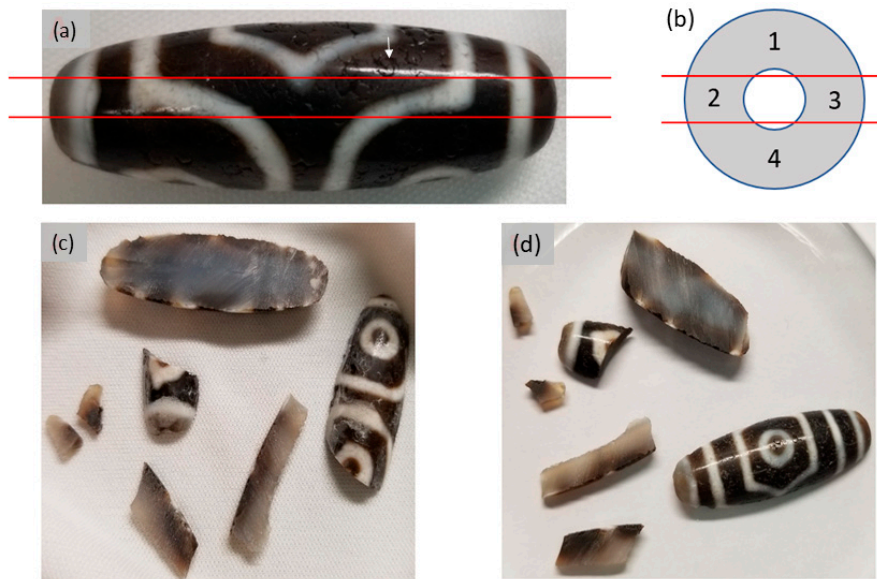
### Exploring the mysterious Dzi bead with synchrotron light: XRD, XRF imaging and $\mu$ -XANES analysis

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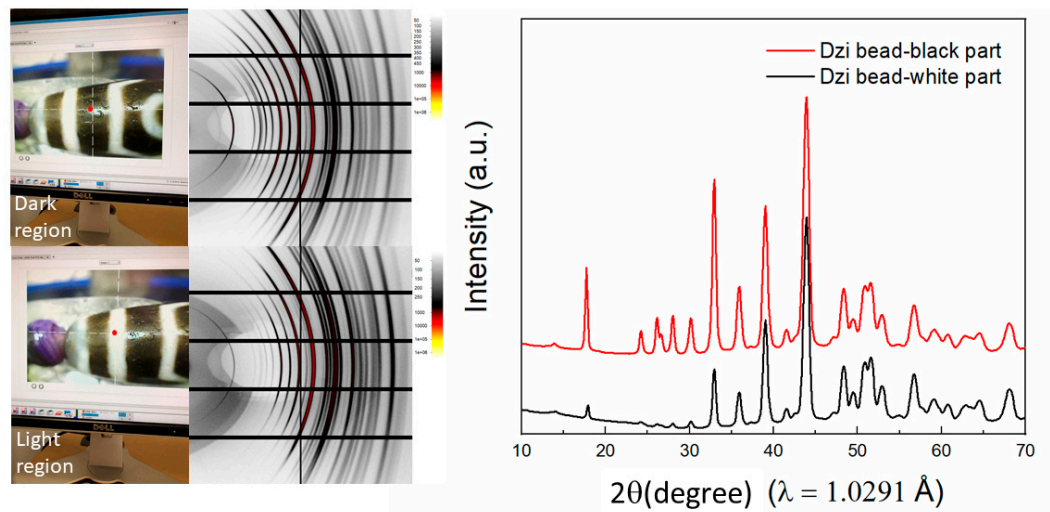
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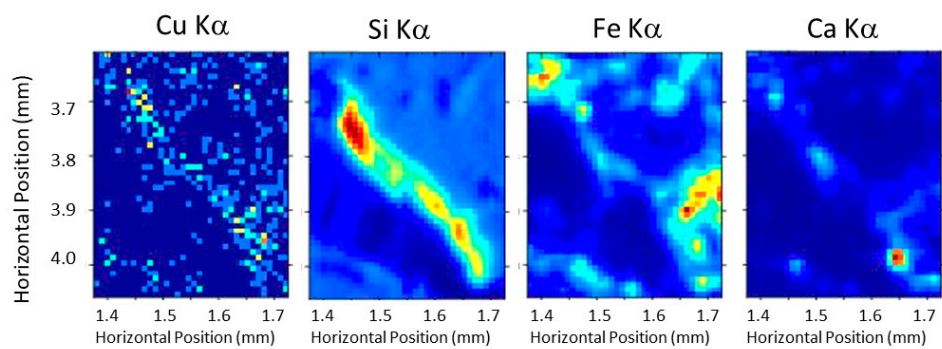
*Figure S1. The three-eye Dzi bead purchased from a jewelry piece came with an authenticity certificate and a bag.*



**Figure S2.** (a) The slicing plan for the Dzi bead as seen lengthwise. (b) A depiction of the Dzi bead slicing plan as seen from one end of the bead, looking down the hole that runs lengthwise through the bead. (c) Dzi bead post-slicing. (d) Dzi bead after ultrasound bath.



**Figure S3.** Glazing XRD (left panel) of the surface light and dark regions (red dot on the right panel) using 12 keV (1.03 Å) X-rays. Despite the intensity variation, the patterns are identical



**Figure S4.** *Cu K $\alpha$  map recorded based on second order radiation at the Fe K-edge excitation compared with corresponding maps for Si, Fe and Ca.*