

Abstract Submitted
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Thioindigo Interaction with Palygorskite and Sepiolite ALEJANDRA RAMIREZ, RUSSELL CHIANELLI, University of Texas at El Paso, SRIDHAR KOMARNENI, The Pennsylvania State University, SWATI KUMAR, University of Texas at El Paso, ORGANIC-INORGANIC MATERIALS COLLABORATION — Pigments developed by the Mayan civilization are now known to be significantly ‘environmentally friendly’ a technical skill developed circa 250-900 C.E! [1]. One such pigment called Maya Blue, has been the focus of numerous studies and is believed to be a mixture of palygorskite clay and indigo dye [2,3]. Several derivatives of this pigment have been now developed with intriguing properties. For instance, the dye, textitthioindigo, reacts with the *palygorskite* clay to exhibit a broad range of colors from red to blue under UV-Vis excitation. The range of colors produced with *sepiolite* clays is smaller. We present spectroscopic analyses of pigments derived from *thioindigo:palygorskite* and *thioindigo:sepiolite* mixtures. ^{27}Al MAS-NMR spectra of *sepiolite* mixtures clearly showed changes in the Al coordination upon reacting with *thioindigo*. However, palygorskite-dye mixtures showed only slight changes in Al coordination. Future work will involve ^{27}Al MAS-NMR analyses of *thioindigo* and clays rich in tetrahedrally coordinated Al to confirm the coordination changes in Al in the presence of *thioindigo*.

Alejandra Ramirez
University of Texas at El Paso

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