

## Supplementary Information

### Non-destructive identification and characterization of Crystopal, a novel mid-twentieth century plastic

Mary N. Boyden<sup>a\*</sup>, Courtney K. Hicks<sup>b</sup>, and Timothy M. Korter<sup>a</sup>

<sup>a</sup> Department of Chemistry, Syracuse University, Syracuse, NY, 13244, USA

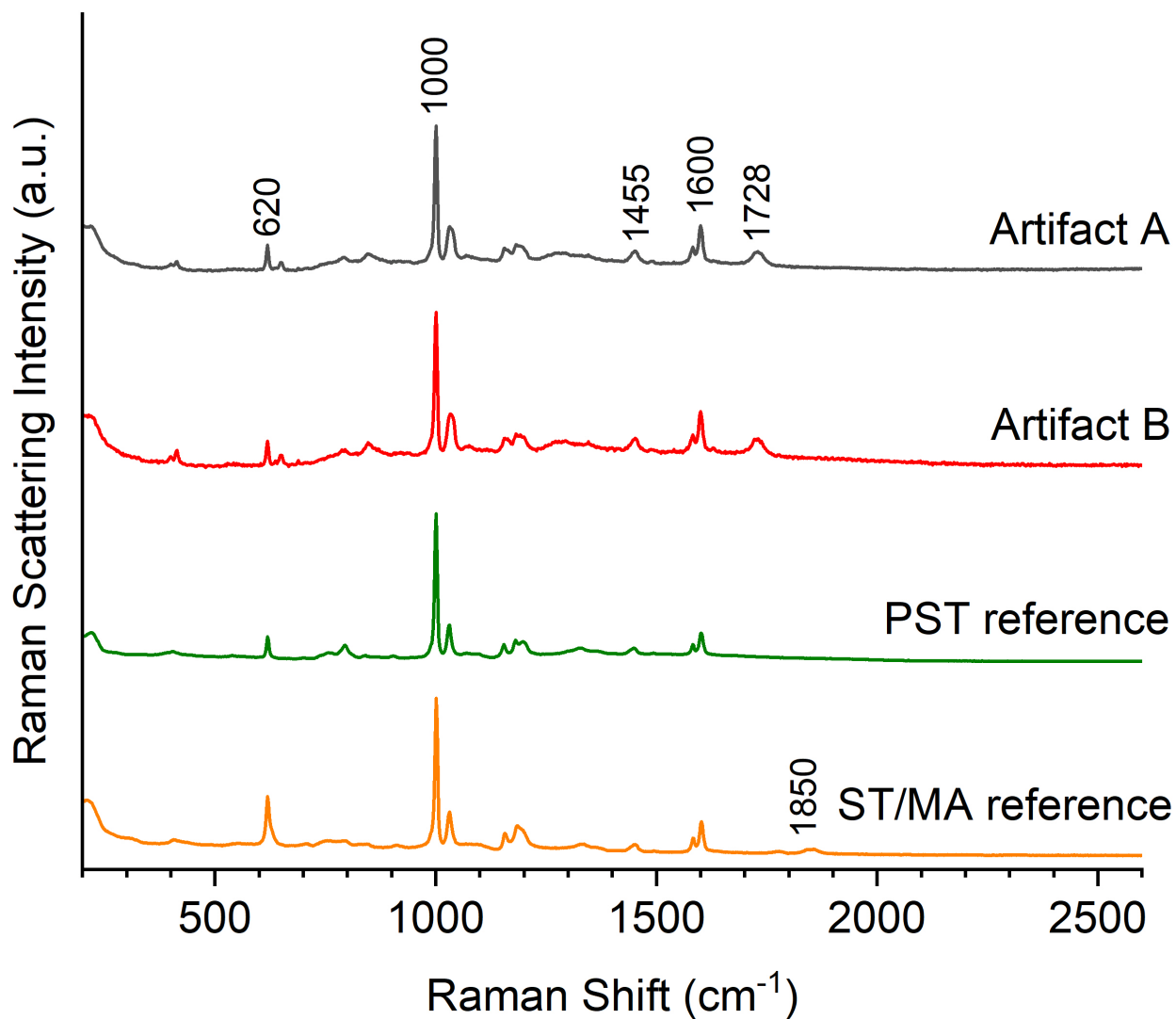
<sup>b</sup> Special Collections Research Center, Syracuse University Libraries, Syracuse University, Syracuse, NY, 13244, USA

\* Author to whom correspondence should be addressed: mnboyden@syr.edu

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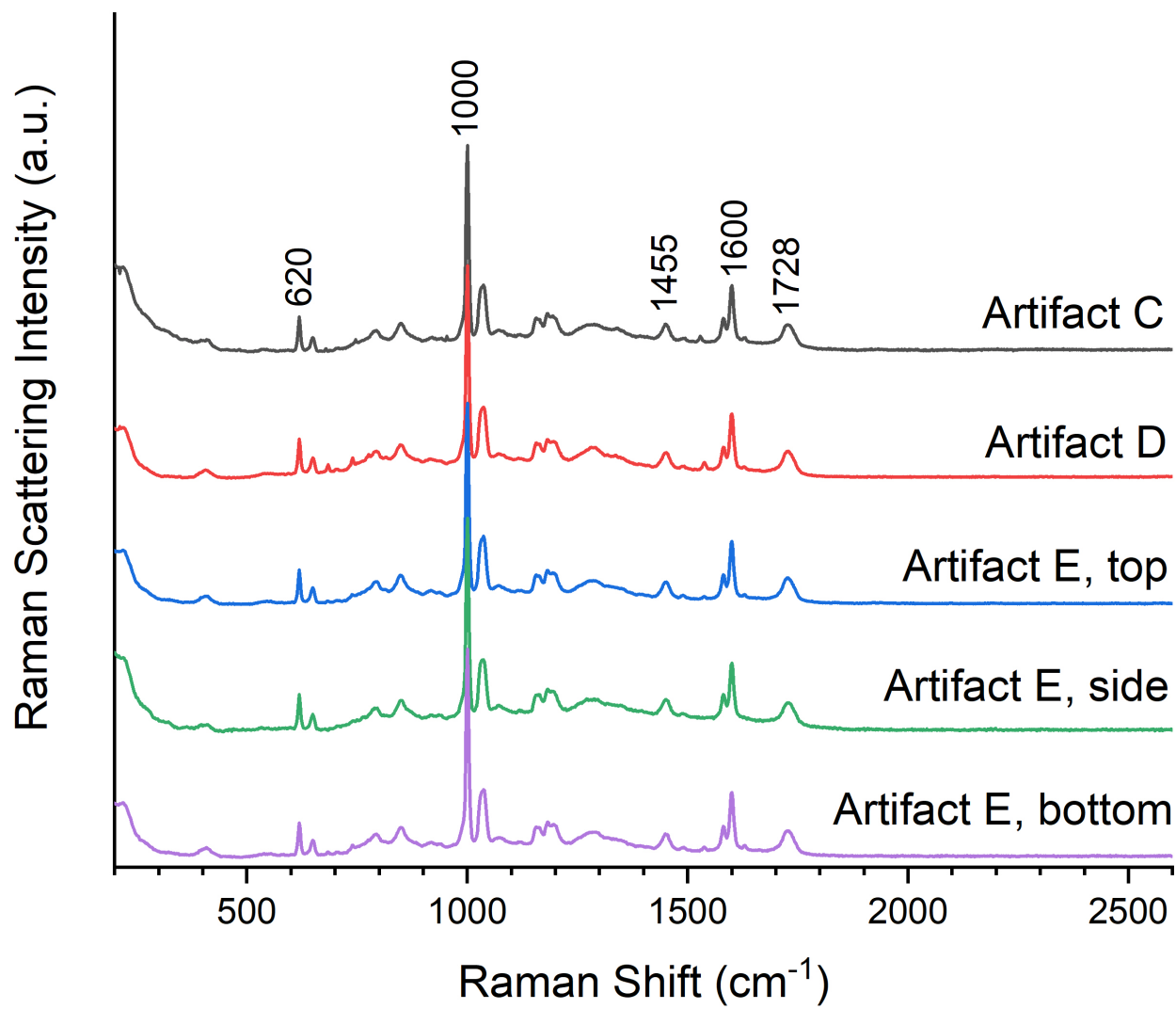
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**Fig. S1.** Full spectral range (200- 2600  $\text{cm}^{-1}$ ) used in database matching analysis for Artifact A, Artifact B, polystyrene reference (PST), and styrene/maleic anhydride copolymer reference (ST/MA).

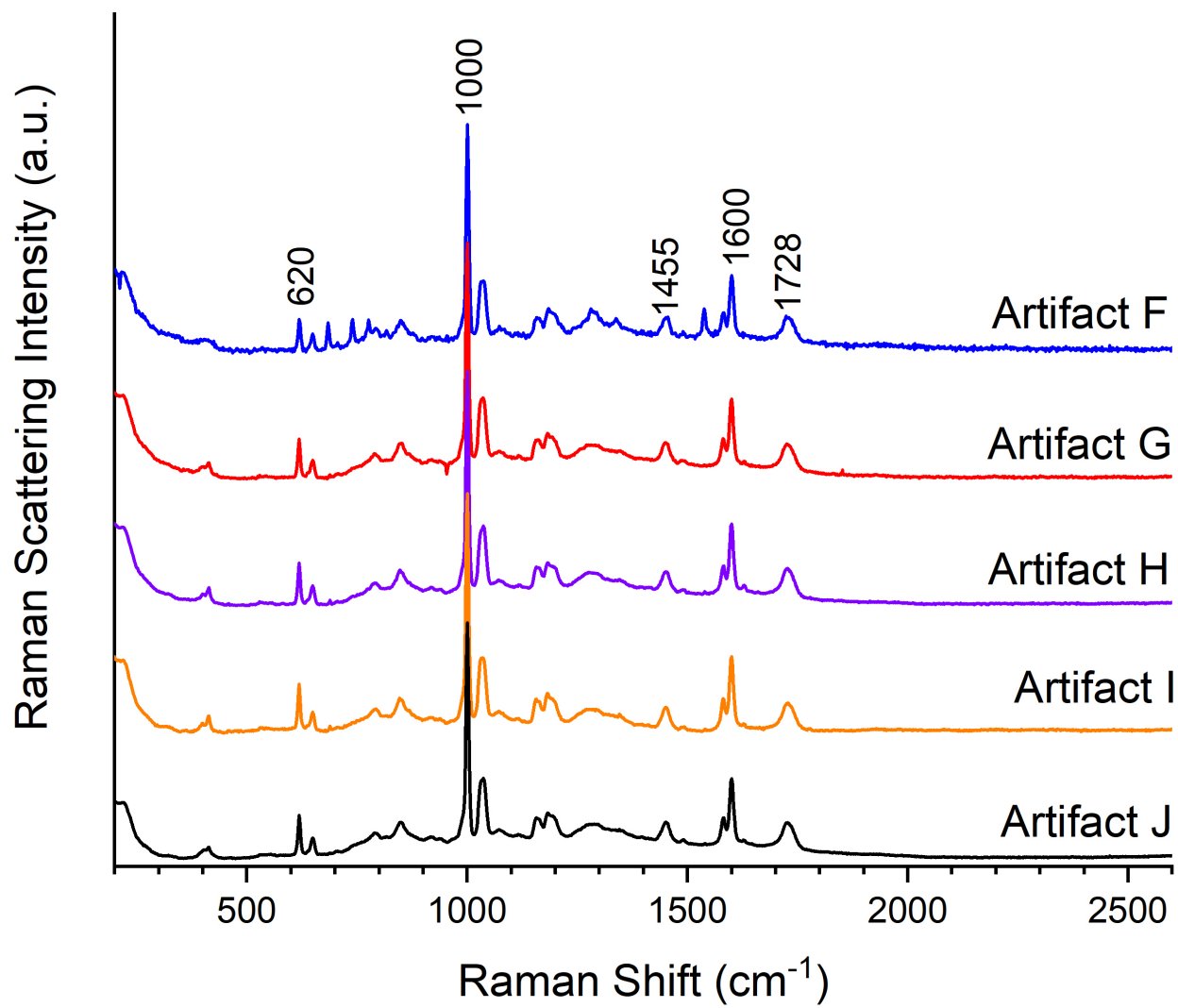


In the ST/MA reference spectrum, note the anhydride carbonyl stretch at 1850  $\text{cm}^{-1}$ . This is shifted significantly from the ester carbonyl stretch at 1728  $\text{cm}^{-1}$ . For more information see: Larkin, P.J. *IR and Raman Spectroscopy Principles and Interpretation*; Elsevier: Boston, 2011, p. 100.

**Fig. S2.** Full spectral range (200- 2600  $\text{cm}^{-1}$ ) used in database matching analysis for Artifacts C-E.



**Fig. S3.** Full spectral range (200- 2600  $\text{cm}^{-1}$ ) used in database matching analysis for Artifacts F-J.



**Fig. S4.** Full spectral range (200- 2600  $\text{cm}^{-1}$ ) used in database matching analysis for Artifacts K-M, the Crystopal reference and PST.

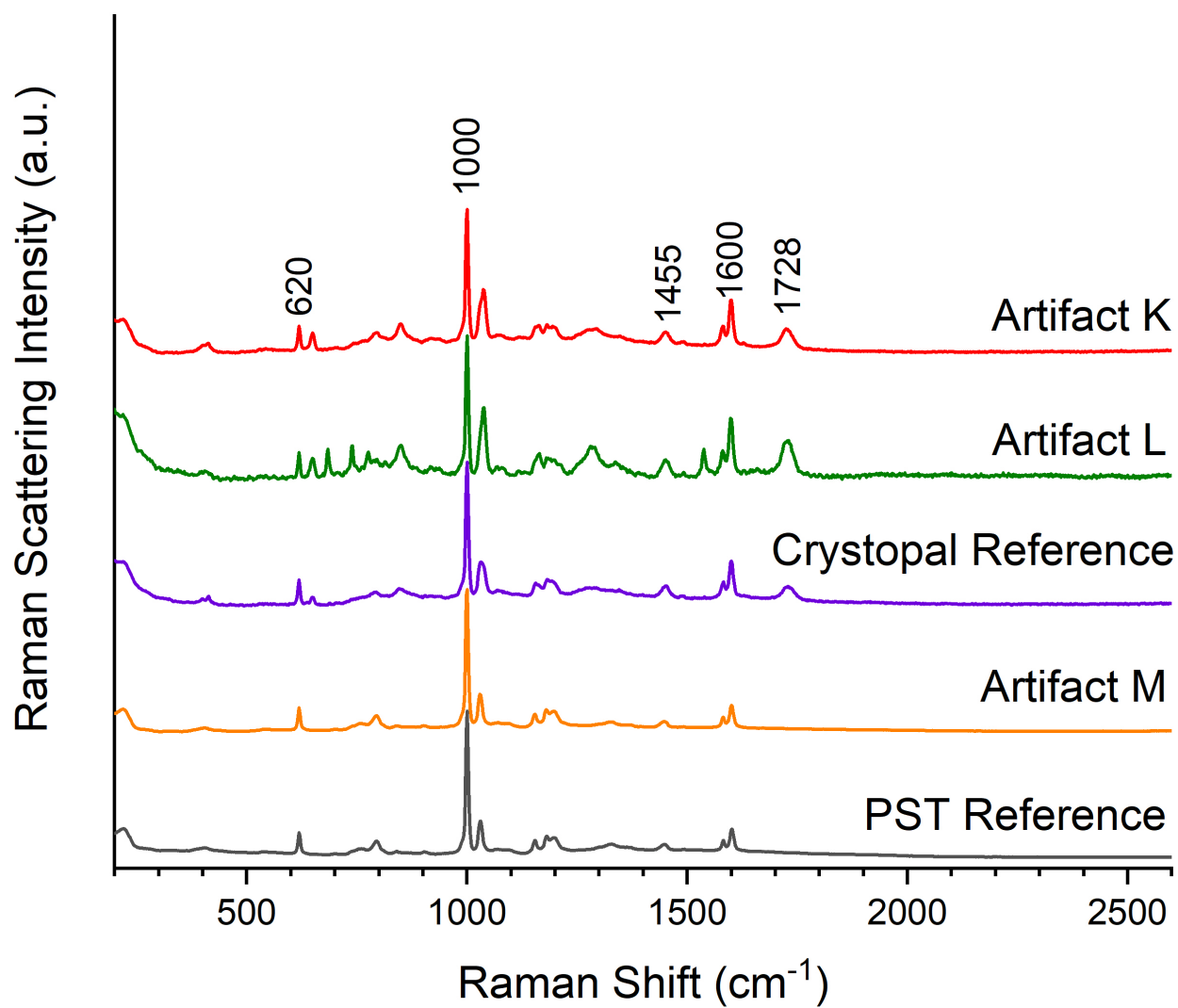


Fig. S5. Full spectral range (200- 2600  $\text{cm}^{-1}$ ) used in database matching analysis for Artifacts N.

