

Assessment of the Efficacy of Agarose and Agarose Augmented with Zinc Oxide, Carbon Dots, and Graphitic Carbon Nitride Nanostructures in the Restoration of Historic Tintype

Hadeer M. ELDeeb ^{*a}, Mona F. Ali ^a, Maha A. Ali ^a, Nasser N.Morgan ^b, Ahmed N. Emam ^{c, d*}

^a Conservation Department, Faculty of Archaeology, Cairo University, Giza, Egypt
12613 Orman, Giza, Egypt.

^b Physics Department, Faculty of Science, Al-Azhar University, Cairo 11884, Egypt.

^c Refractories, Ceramics and Building Materials Department, Advanced Materials Technology & Mineral Resources Research Institute, National Research Centre (NRC), El Bohouth St., Dokki, 12622 Cairo, Egypt. **ORCID ID: 0000-0002-4762-1600, Email: ahmed.gsc.ndp@gmail.com**

^d Nanomedicine & Tissue Engineering Research Lab, Medical Research Centre of Excellence, National Research Centre (NRC), El Bohouth St., Dokki, 12622 Cairo, Egypt. **Email: an.emam@nrc.sci.eg**

For Correspondence:

Hadeer Mamdouh ELDEEB. Email: hadeermamdouh010@gmail.com
, hadeermamdouh010@cu.edu.eg

Ahmed N. Emam Email: an.emam@nrc.sci.eg, ahmed.gsc.ndp@gmail.com

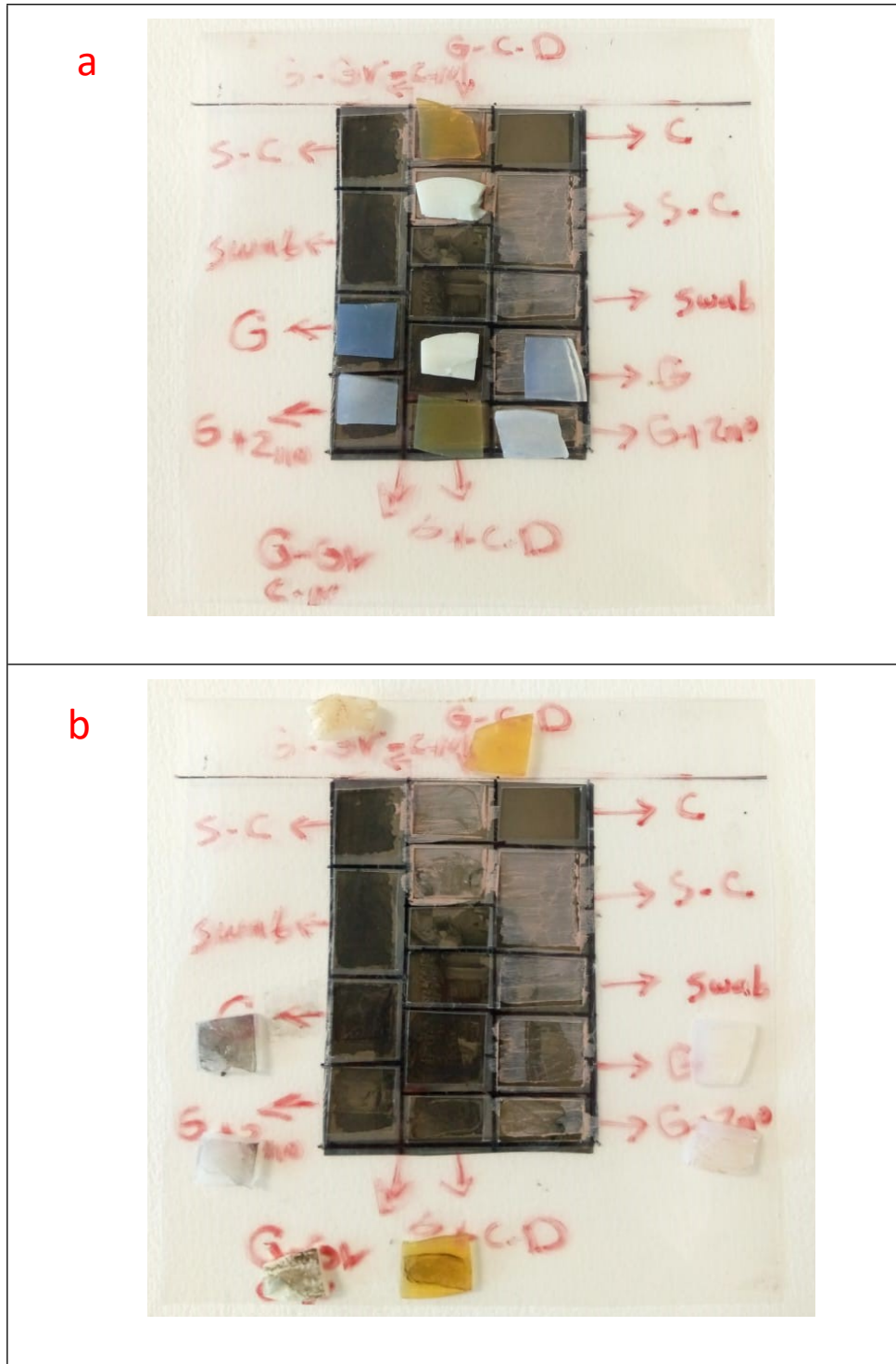


Figure S1. (a) Illustration of the gel application procedure on the sample surface. (b) Comparative cleaning efficiency of the different gel formulations.