

Supporting Information for

“Silica nanocontainers with rhodamine B acylhydrazone for early fluorescent detection of steel corrosion”

Anna Mal'tanova, Nikita Bel'ko, Tatsiana Kulahava, Michael Samtsov,
and Sergey Poznyak

E-mail: poznyak@bsu.by

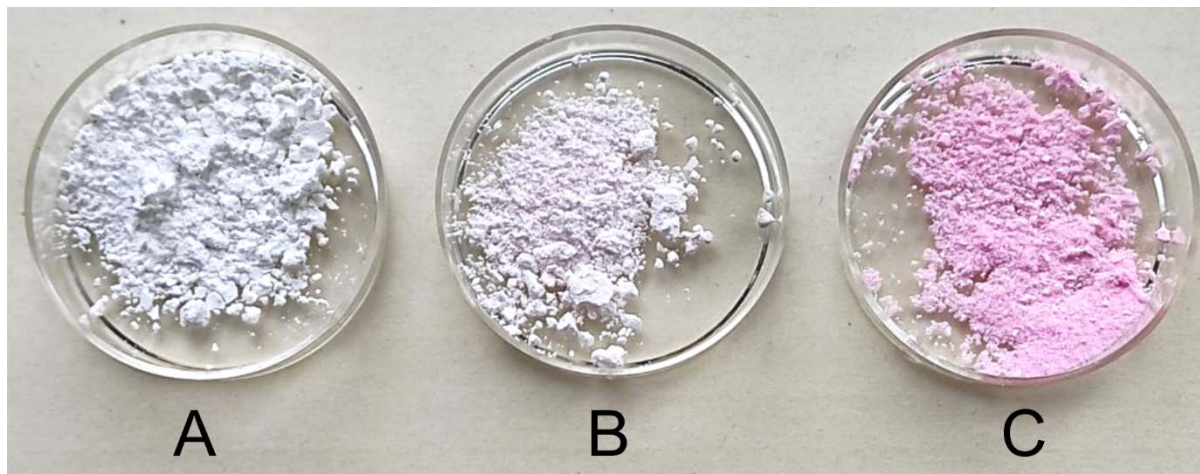


Fig. S1. Photographs of bare SiNCs (A) and RBA@SiNCs prepared using toluene (B) and dichloromethane (C) as the co-solvent.

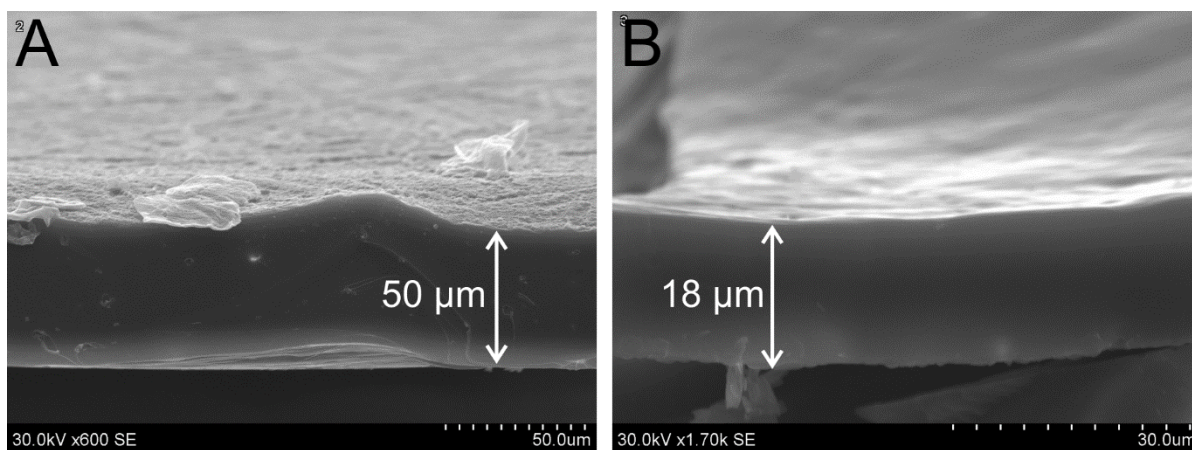


Fig. S2. Cross-sectional SEM images of cured epoxy (A) and acrylic (B) coatings delaminated from metal substrates.

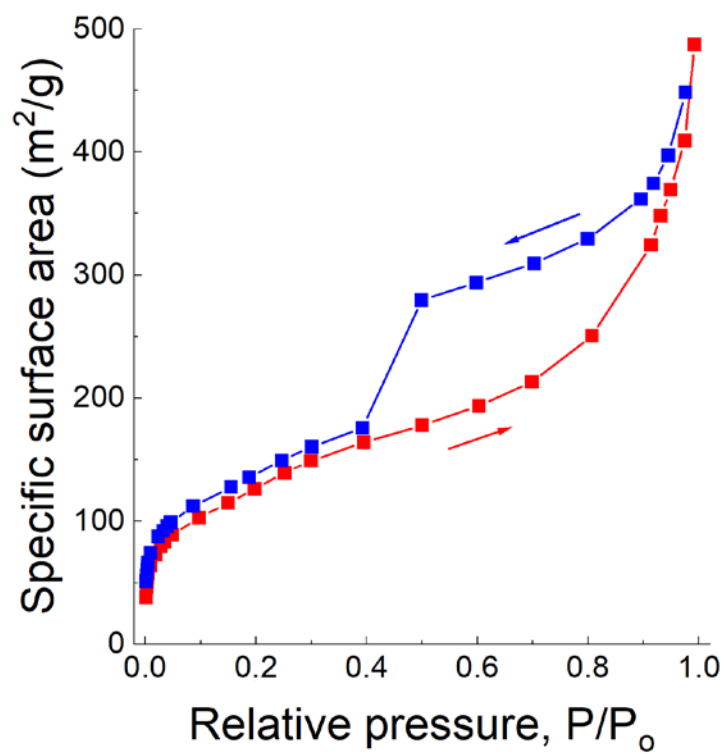


Fig. S3. Nitrogen adsorption isotherm for SiNCs.

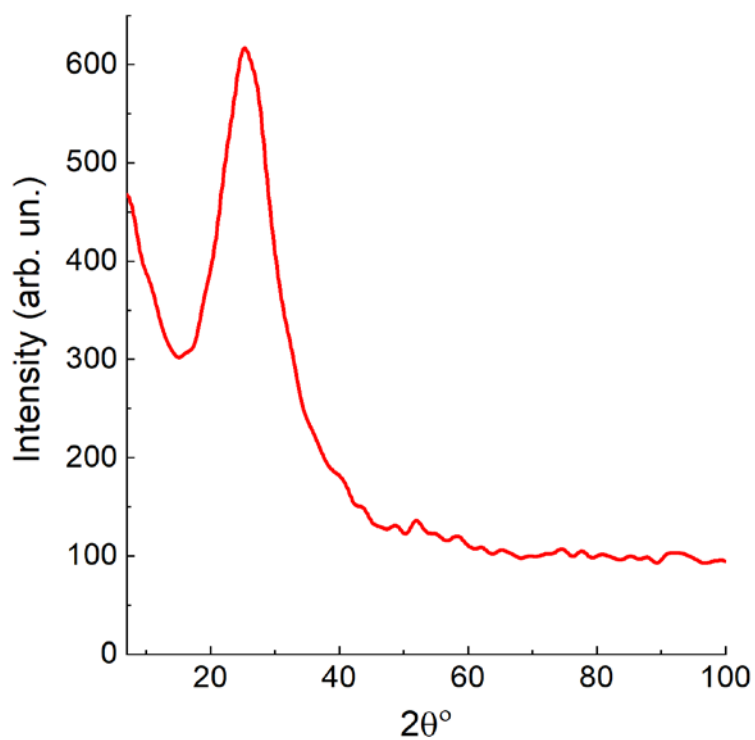


Fig. S4. XRD pattern for SiNCs.

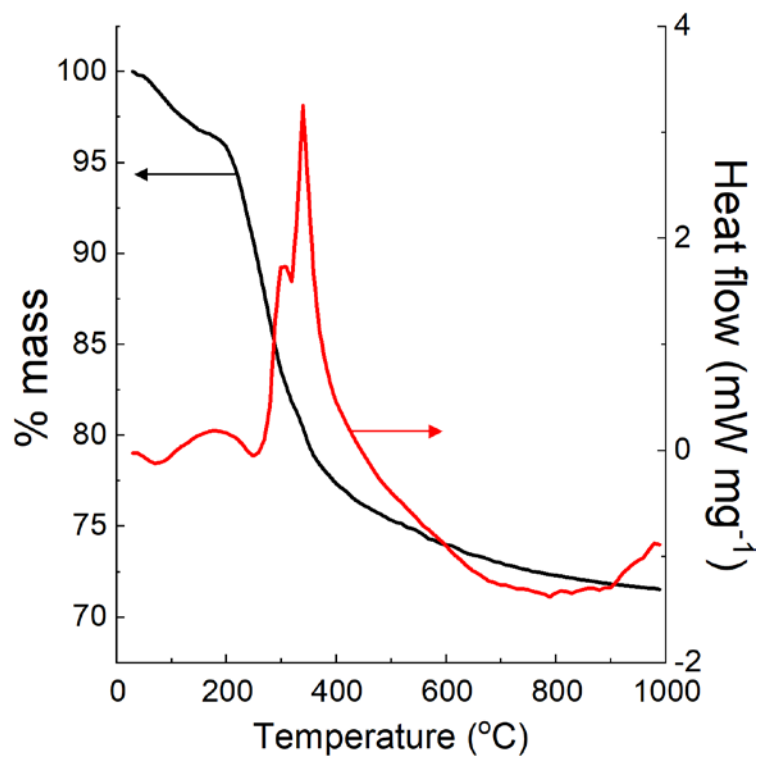


Fig. S5. TG (left) and DSC (right) curves for SiNCs.

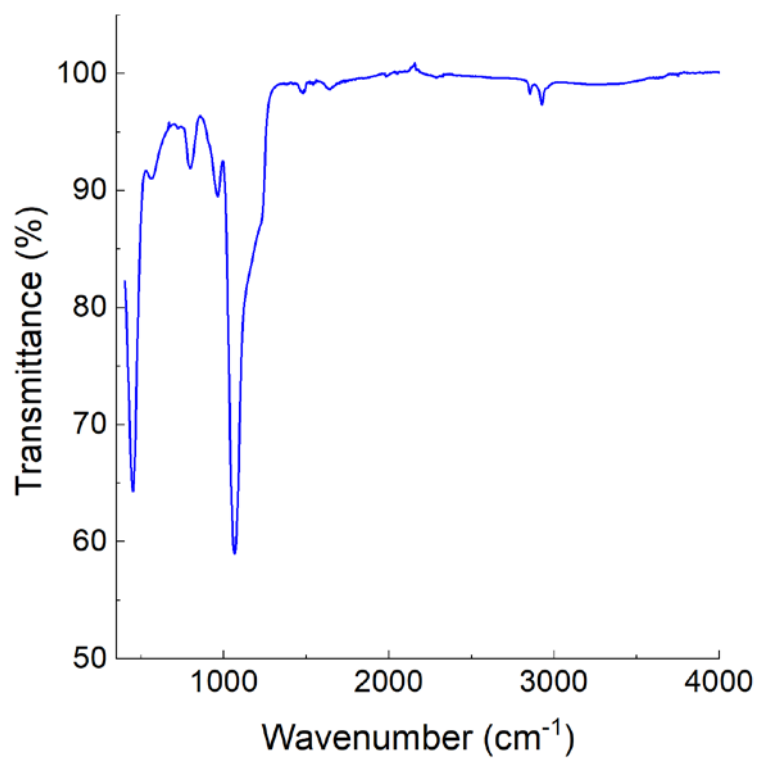


Fig. S6. FTIR spectrum for SiNCs.

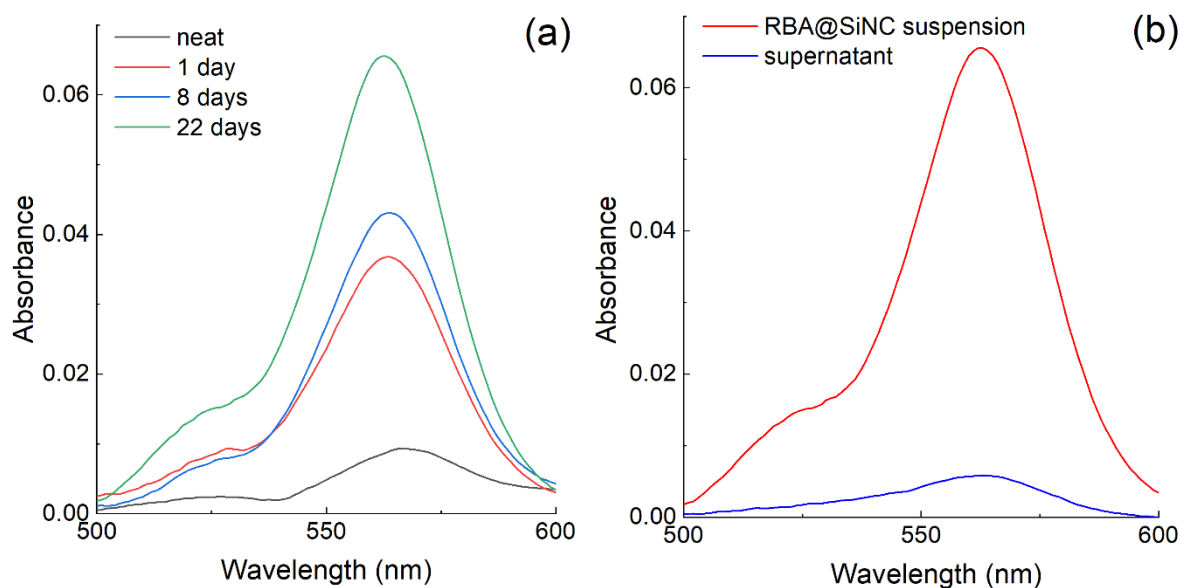


Fig. S7. Absorption spectra for a 1 mg mL^{-1} aqueous suspension of RBA@SiNCs containing 5 mM H^+ (as HCl). (a) Spectra for the freshly prepared suspension (black curve) and after 1 day (red curve), 8 days (blue curve), and 22 days (green curve). (b) Spectra for the suspension (red curve) and its supernatant (blue curve) measured in 22 days after preparation. The supernatant was obtained by centrifugation at 12000 rpm for 10 min. The component in the spectra associated with light scattering on SiNCs was removed by subtracting the spectrum for pure SiNCs and correcting the baseline.

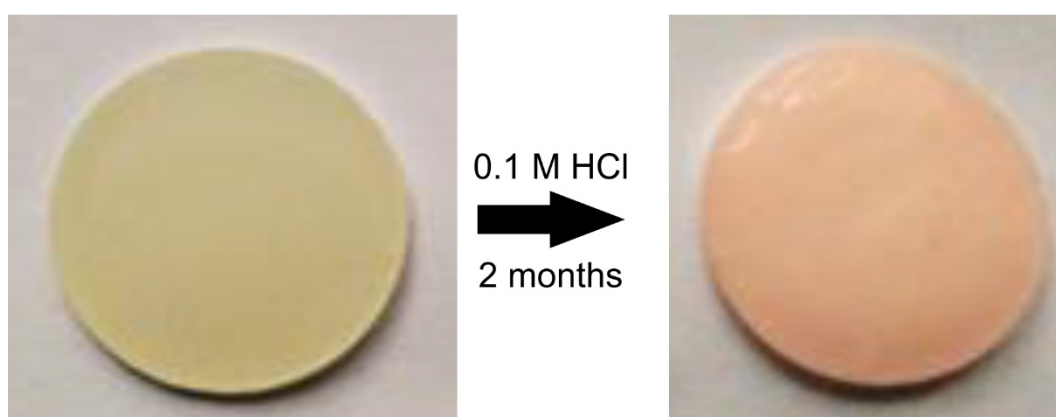


Fig. S8. Photographs of a free-standing epoxy film filled with RBA@SiNCs before and after 2 months of exposure to 0.1 M HCl solution.