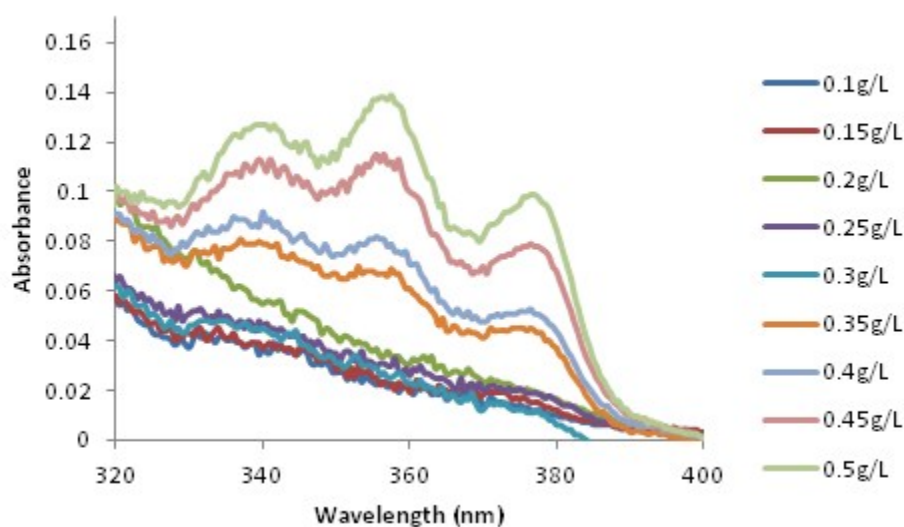
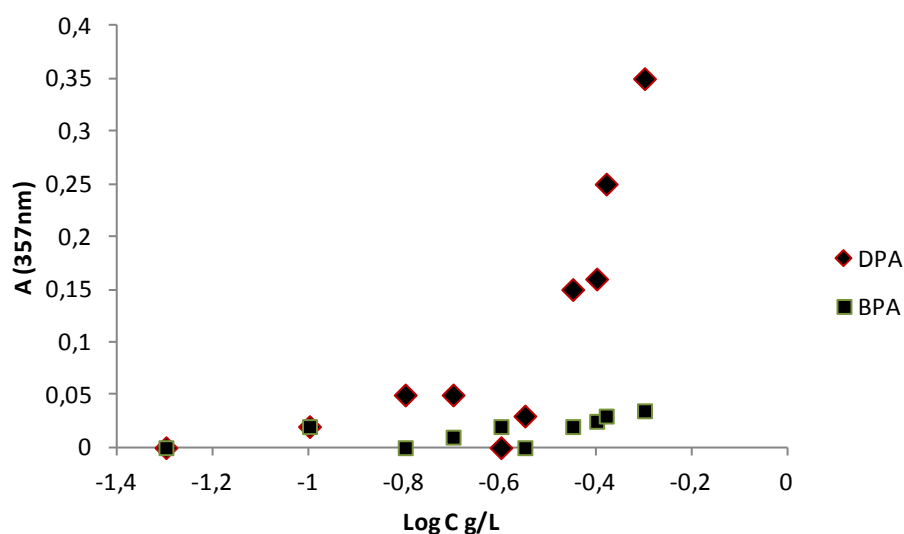


### Supporting information

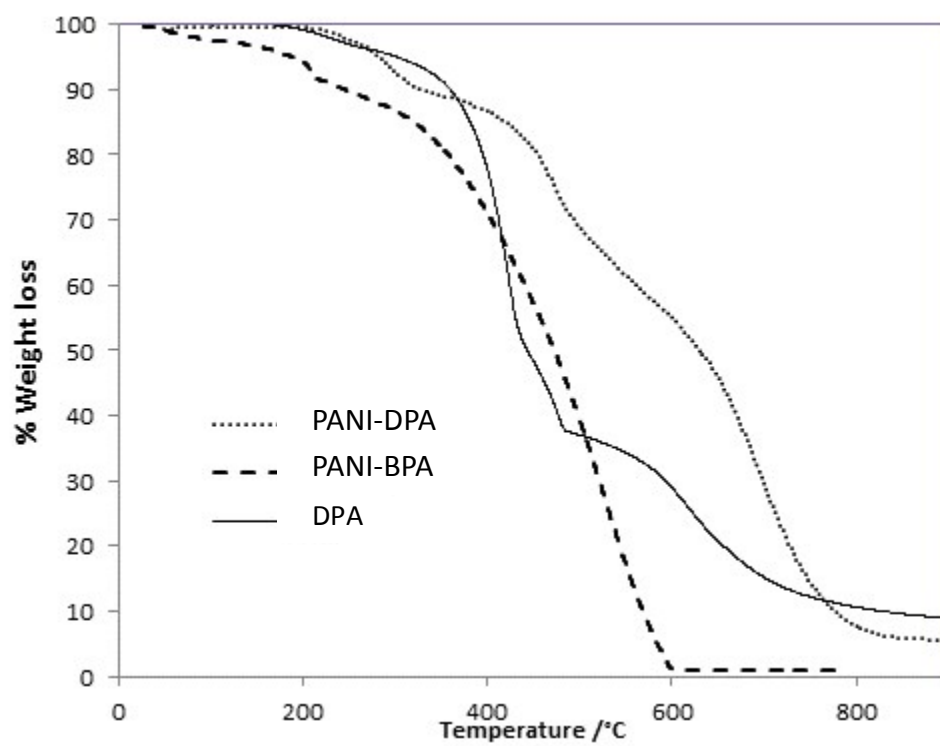
The self-aggregation behavior of the DPA and BPA in water was studied by the solubilization method using 1,6 -diphenyl-1,3,5-hexatriene (DPH) as a hydrophobic probe (Figure S1). Absorption spectra exhibited a step increase of absorption of DPH ( $\lambda=357$  nm) above a DPA concentration of 1.4 mM (Figure 2). DPH absorption did not show any step increase over a large concentration range in BPA. Thus BPA does not self-associate in water in the investigated concentration range.



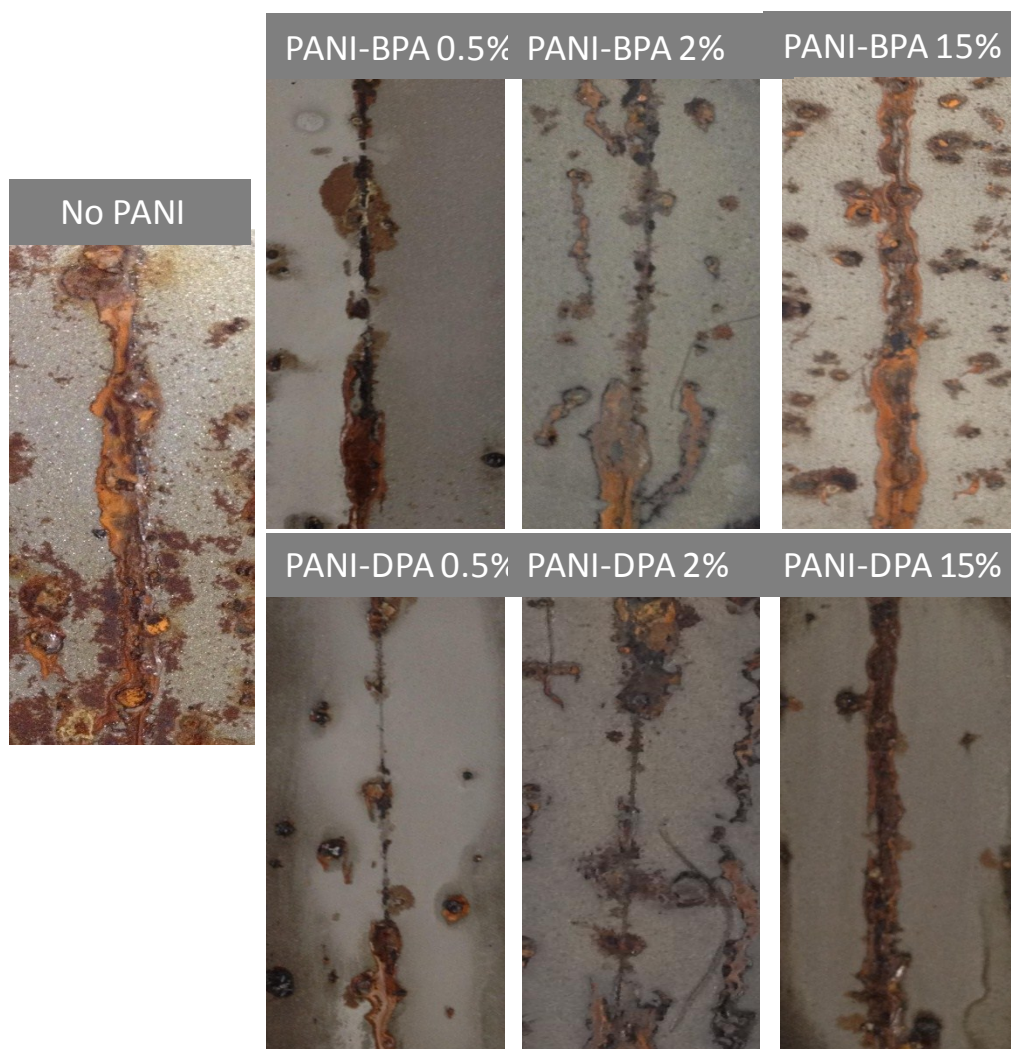
**Fig. S1.** UV-vis spectra of aqueous DPH solutions at various concentrations of DPA.



**Fig. S2.** Dependence of the absorption at  $\lambda=357$  nm on DPA and BPA concentration.



**Fig. S3.** TGA thermograms of DPA, PANI-BPA and PANI-DPA



**Fig. S4** PVB coated steel panel without and with PANI at different concentrations (0.5, 2 and 15 wt %) around the scribe area after 20 days salt spray testing.