

## Electronic Supplementary Information

### **Nanoconfinement of pyrene in mesostructured silica nanoparticles for trace detection of TNT in aqueous phase**

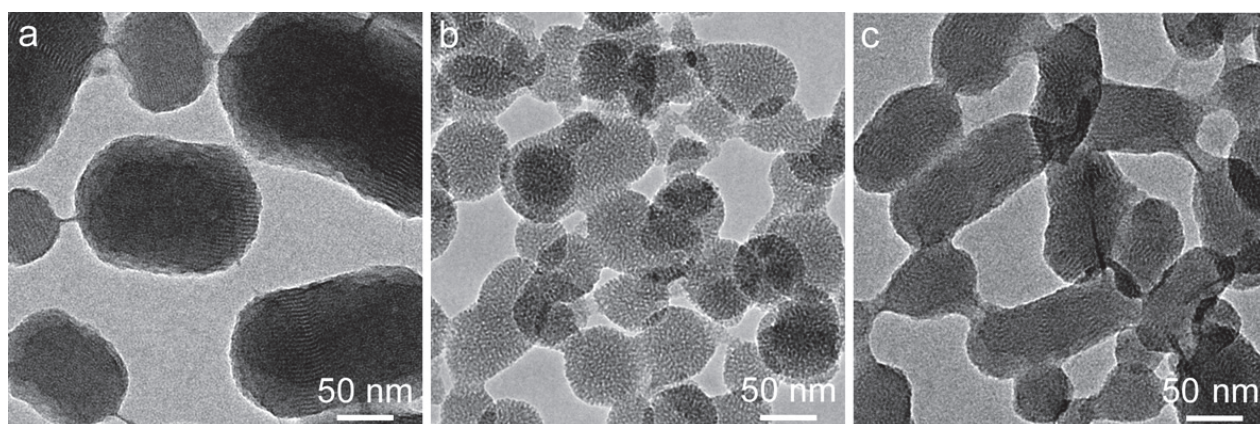
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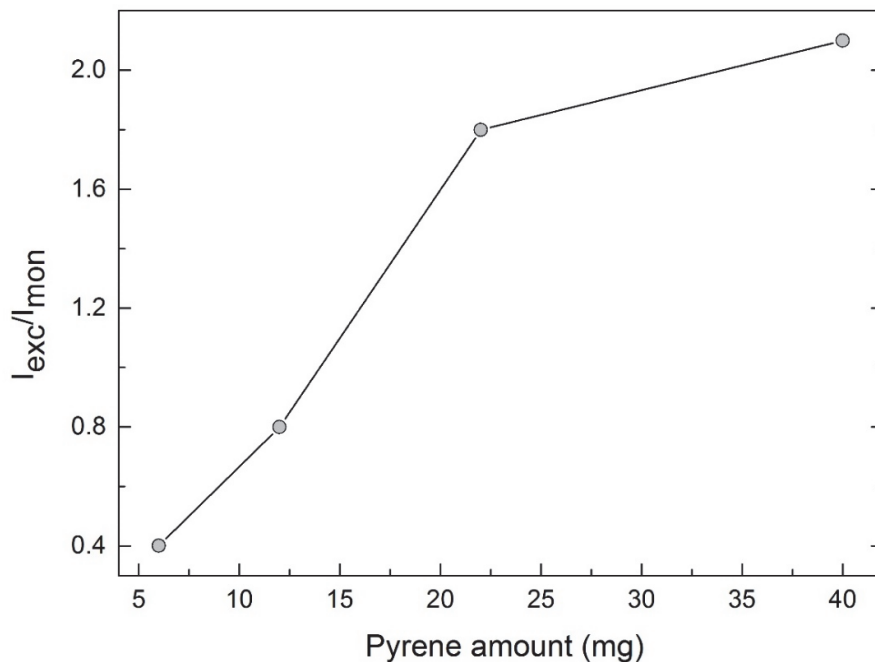
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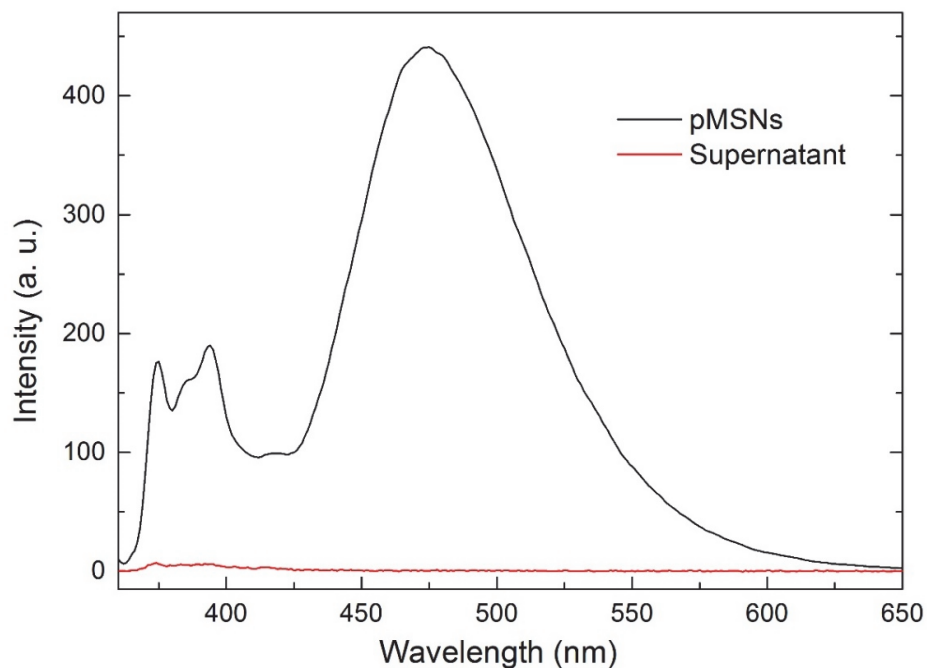
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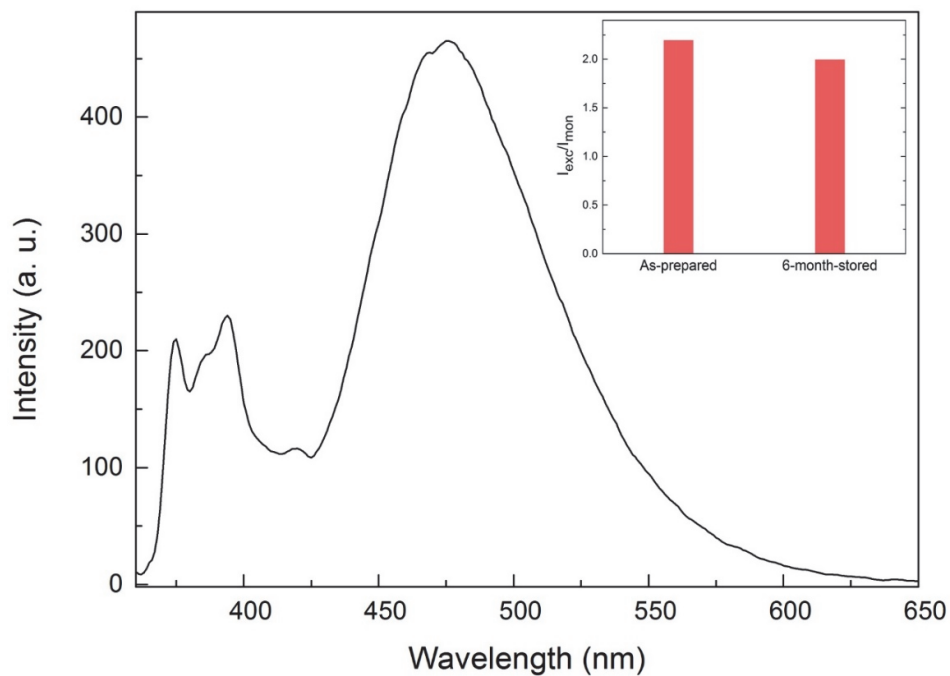
**Fig. S1** TEM images of pMSNs prepared using (a) 6 mg, (b) 12 mg, and (c) 22 mg of pyrene.



**Fig. S2**  $I_{exc}/I_{mon}$  ratios of pMSNs prepared using various amounts of pyrene.  $I_{exc}/I_{mon}$  ratios were calculated to be 0.4, 0.8, and 1.8, for pMSNs prepared using 6 mg, 12 mg, and 22 mg of pyrene, respectively.



**Fig. S3** Fluorescence spectra of pMSNs (black) and supernatant (red) of pMSNs which was obtained after centrifuging the pMSNs.



**Fig. S4** Fluorescence spectrum of pMSNs which was stored for six months at ambient conditions. Inset shows the  $I_{exc}/I_{mon}$  ratios of as-prepared and stored pMSNs.