

Facile fabrication of highly controllable gating systems based on the combination of inverse opal structure and dynamic covalent chemistry

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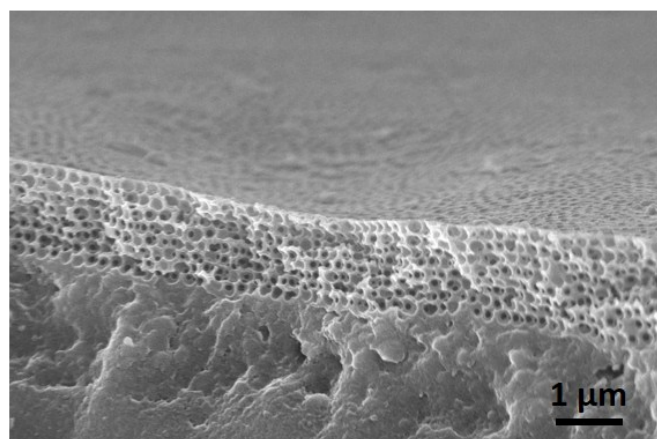


Figure S1. The cross-section SEM image of the inverse opal film.

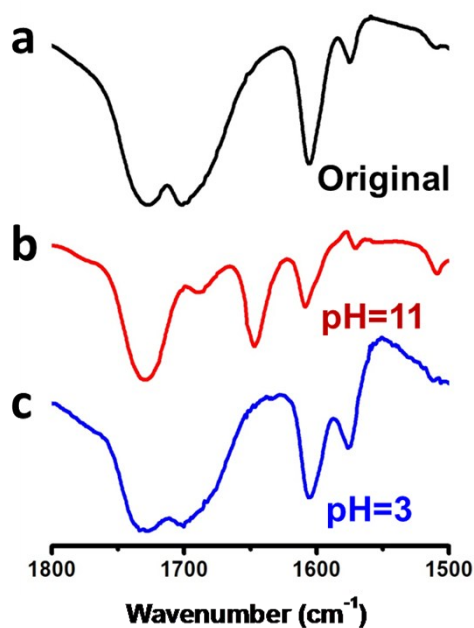


Figure S2. The FTIR data of (a) blank benzaldehyde-containing film and corresponding films reacted with alkyl amines at (b) pH = 11 and (c) pH = 3.

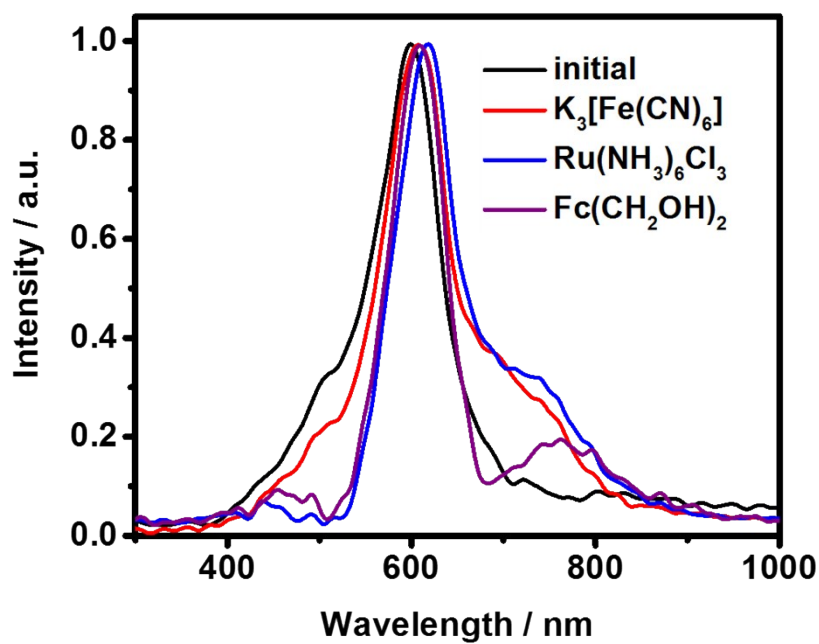


Figure S3. Optical response of the negative charge controlled system upon transport of three redox probes $\text{Ru}(\text{NH}_3)_6\text{Cl}_3$, $\text{K}_3[\text{Fe}(\text{CN})_6]$ and $\text{Fc}(\text{CH}_2\text{OH})_2$, respectively.