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Supporting Information

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Formation of Diverse Mesophases Templated by Diprotic Anionic Surfactant

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Supporting Information

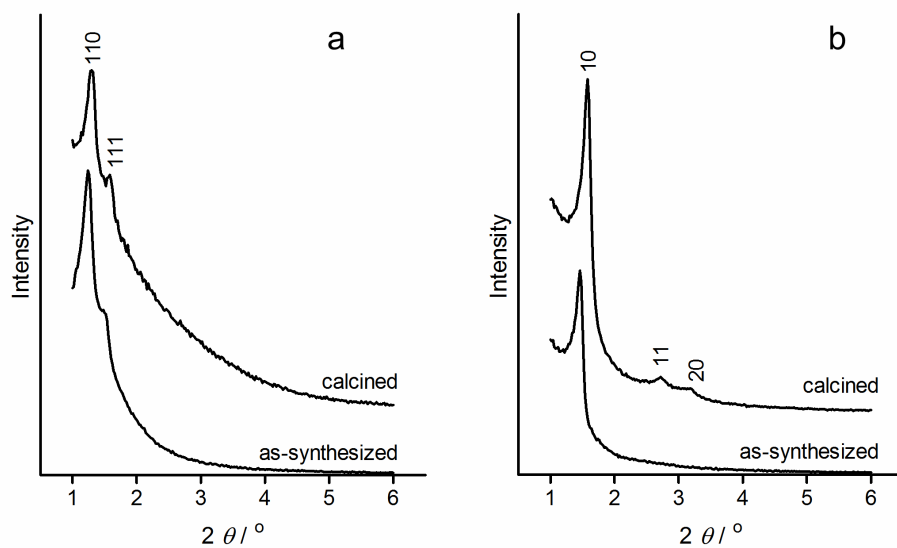


Figure S1. XRD patterns of mesoporous silicas having the space group of (a) bicontinuous cubic $Pn\bar{3}m$: $C_{14}GluA/NaOH/TMAPS$ 0.200:0.100:0.700 and (b) 2d-hexagonal $p6mm$: $C_{14}GluA/NaOH/TMAPS$ 0.400:0.300:0.300.

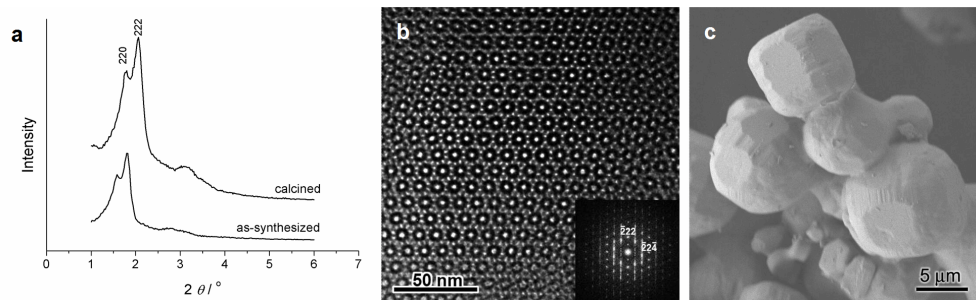


Figure S2. (a) XRD pattern, (b) HRTEM image and (c) SEM image of the cage-type mesoporous silica having the space group of cubic $Fd\bar{3}m$: C_{14} GluA/NaOH/TMAPS 0.284: 0.334: 0.382.

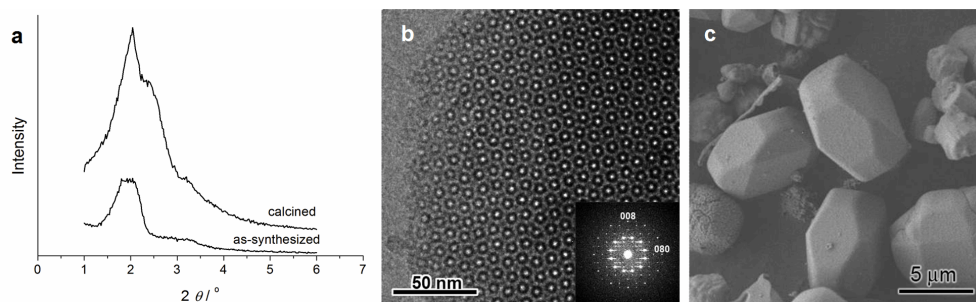


Figure S3. (a) XRD pattern, (b) HRTEM image and (c) SEM image of the cage-type mesoporous silica having the space group of tetragonal $P4_2/mnm$: $\text{C}_{14}\text{GluA}/\text{NaOH}/\text{TMAPS}$ 0.267: 0.417: 0.317.

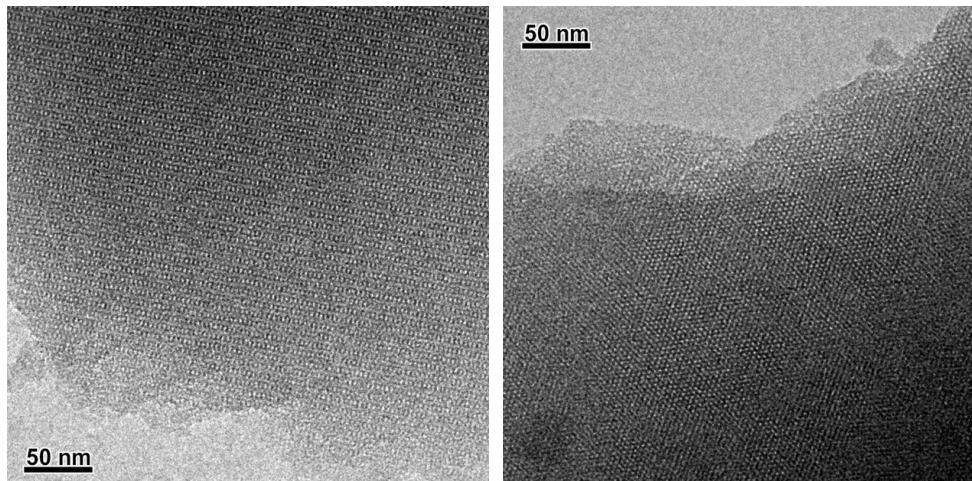


Figure S4. HRTEM images of the mesophase formed from the synthesis system of $C_{14}GluA/NaOH/TMAPS$ 0.233:0.333:0.433.

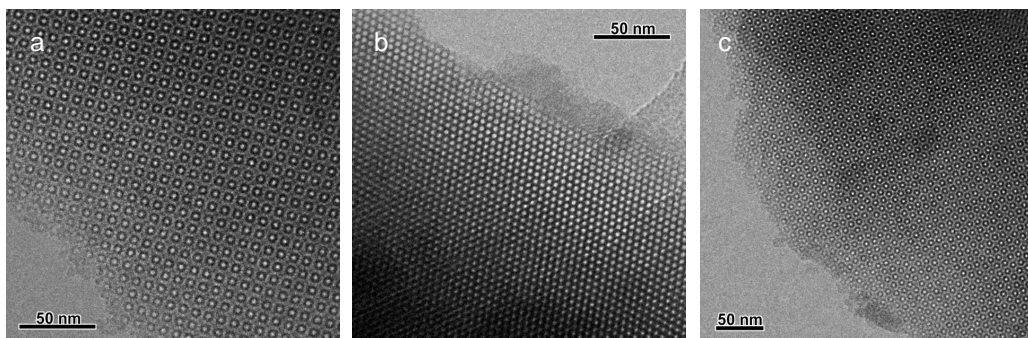


Figure S5. HRTEM images of the mesophase formed from the synthesis system of $C_{14}GluA/NaOH/TMAPS$ 0.267:0.367:0.367. It shows a coexistence of cubic (a) $Pm\bar{3}n$, (b) $Fm\bar{3}m$ and (c) tetragonal $P4_2/mnm$.

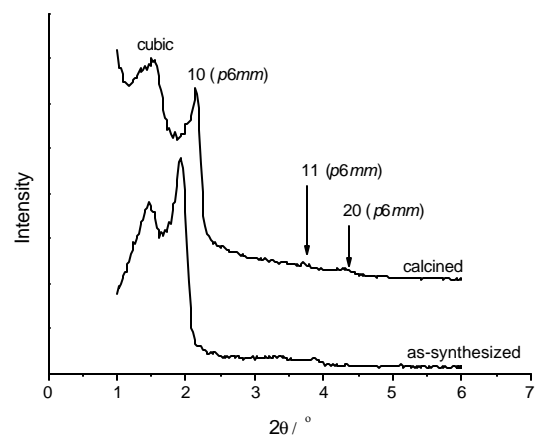


Figure S6 XRD pattern of the mesophase formed from the synthesis system of $C_{14}GluA/NaOH/TMAPS$ 0.367:0.367:0.267. It shows a coexistence of cubic and 2d-hexagonal phases.

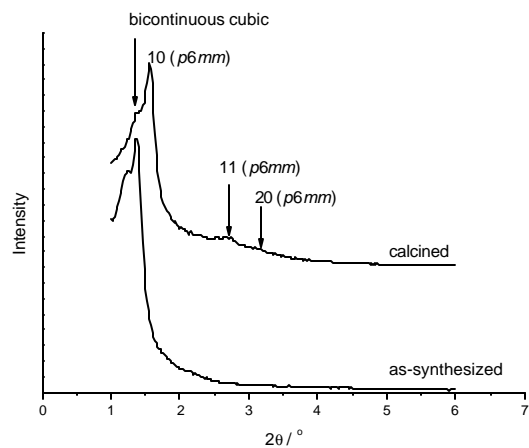


Figure S7. XRD pattern of the mesophase formed from the synthesis system of $C_{14}GluA/NaOH/TMAPS$ 0.267:0.167:0.567. It shows a coexistence of bicontinuous cubic and 2d-hexagonal phases. See reference: C. Gao, Y. Sakamoto, O. Terasaki, K. Sakamoto, S. Che, *J. Mater. Chem.* **2007**, *17*, 3591.