

Preparation of Size-Controlled Monodisperse Colloidal Mesoporous Silica Nanoparticles and Fabrication of Colloidal Crystals

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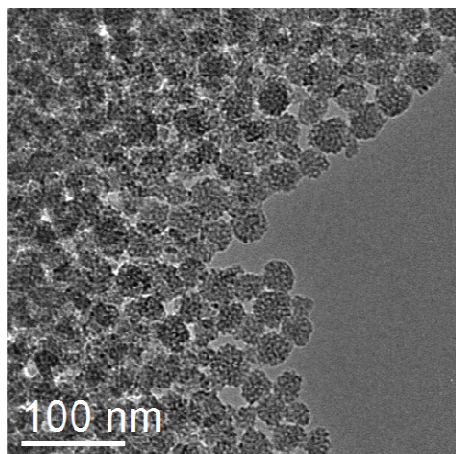


Figure S1 TEM image of the nanoparticles prepared according to Ref. 1. The mean diameter of the nanoparticles was ca. 25 nm. The standard deviation of the nanoparticles was 9 nm, and the value was converted into the standard deviation of 36 %. The size of shorter axis of slightly deformed spherical nanoparticles was used when we calculated the particle diameters and the standard deviation.

Ref 1: Urata, C.; Aoyama, Y.; Tonegawa, A.; Yamauchi, Y.; Kuroda, K., *Chem. Commun.* **2009**, (34), 5094-5096.

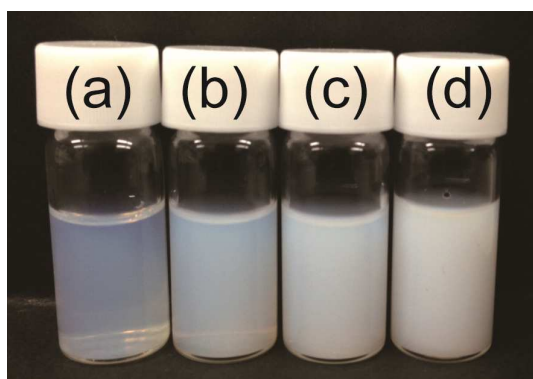


Figure S2 Appearance of (a) CMS-1-as, (b) CMS-2-as, (c) CMS-3-as, and (d) CMS-4-as.

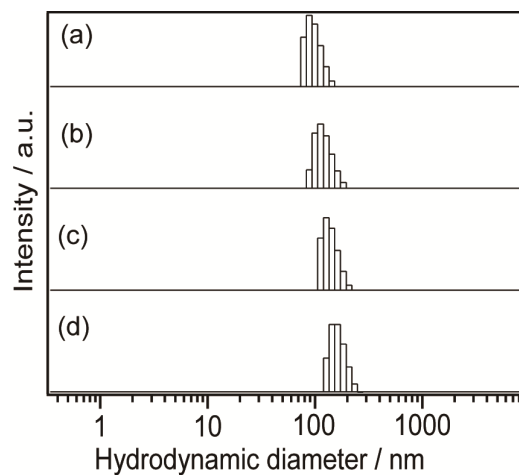


Figure S3 Hydrodynamic diameter distributions of (a) CMS-1-as, (b) CMS-2-as, (c) CMS-3-as, and (d) CMS-4-as (dynamic light scattering (DLS)).

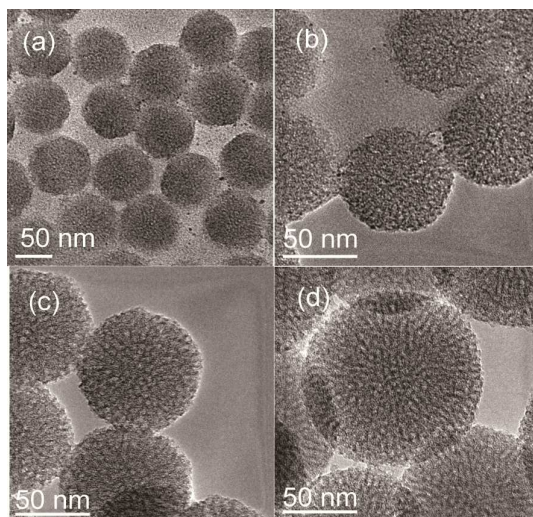


Figure S4 TEM images of (a) CMS-1-as, (b) CMS-2-as, (c) CMS-3-as, and (d) CMS-4-as.

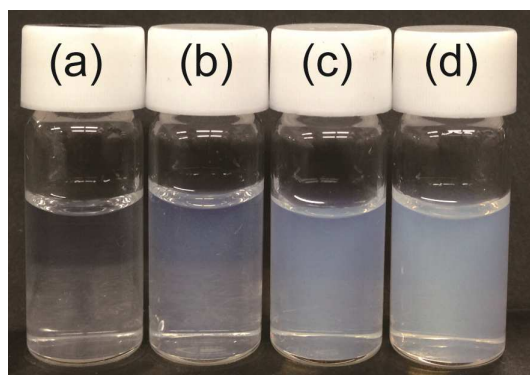


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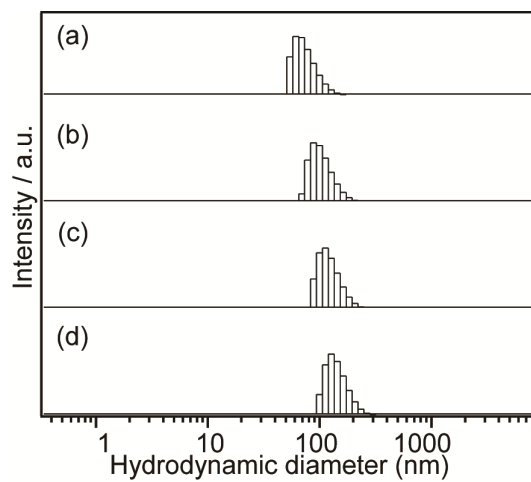


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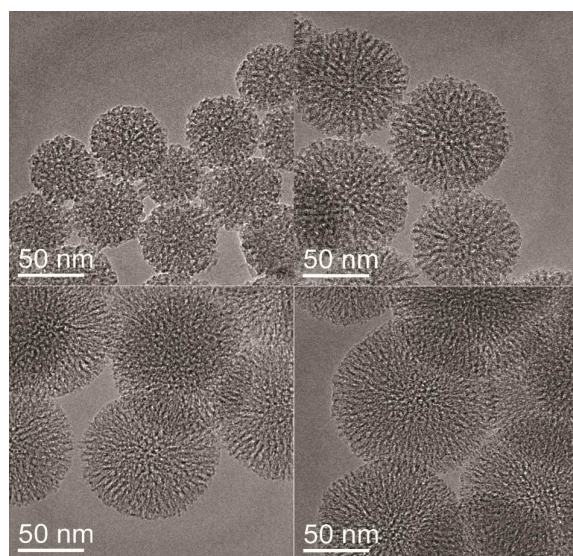


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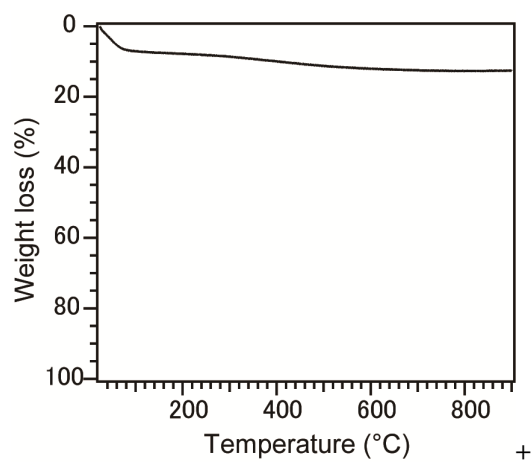


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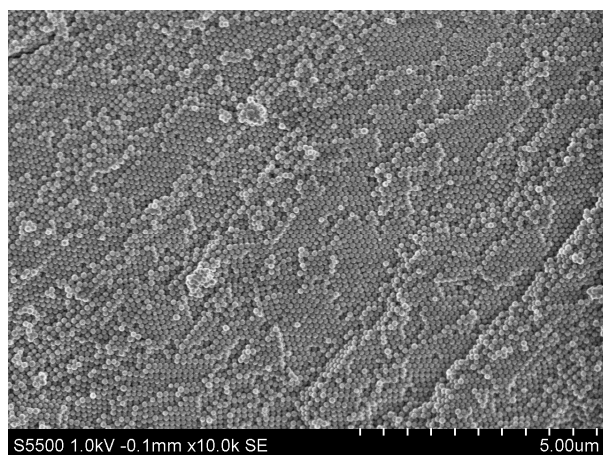


Figure S9 SEM image of Crystal-4-DI with low magnification

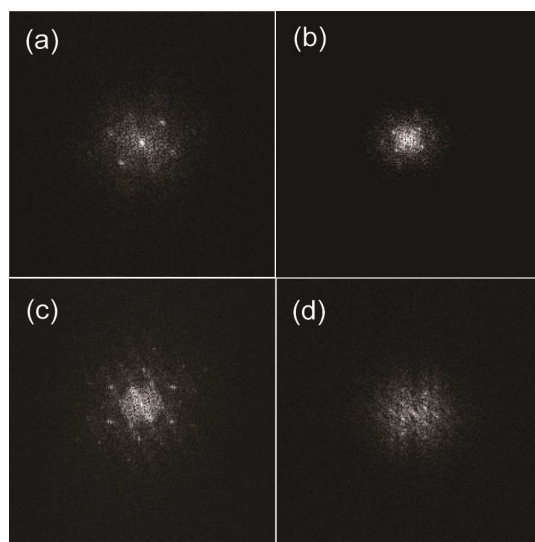


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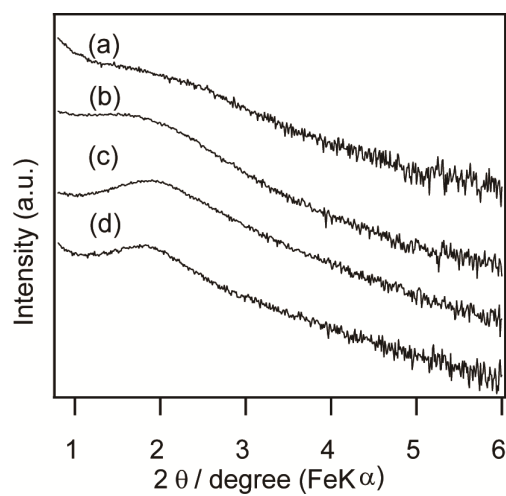


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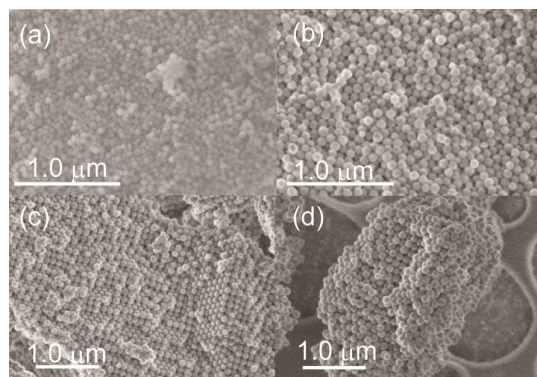


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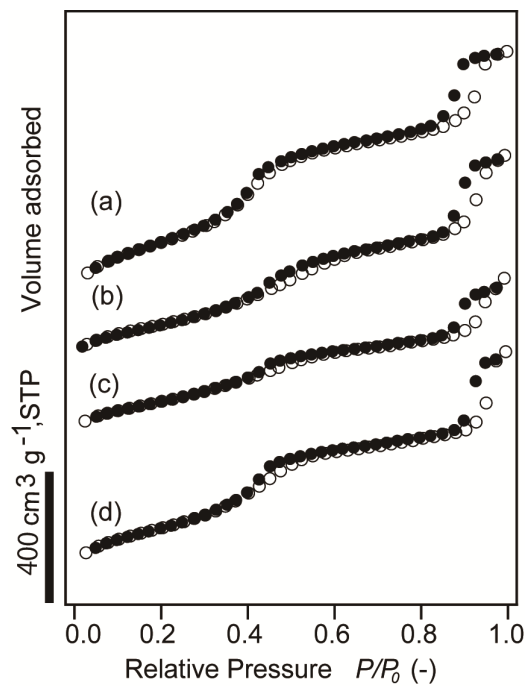


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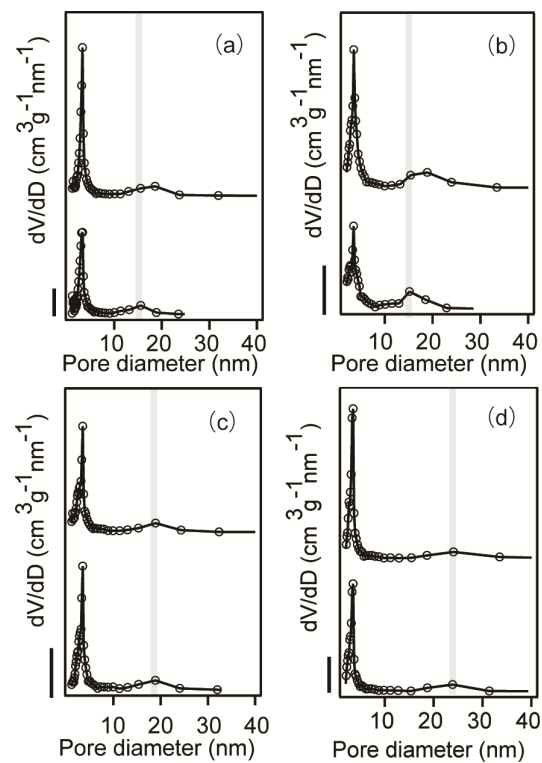


Figure S14 Pore diameter distributions of (a) Crystal-1-dia (upper) and Crystal-1-DI (bottom), (b) Crystal-2-dia (upper) and Crystal-2-DI (bottom), (c) Crystal-3-dia (upper) and Crystal-3-DI (bottom), and (d) Crystal-4-dia (upper) and Crystal-4-DI (bottom). (Scale bar: $0.2 \text{ cm}^3 \text{ g}^{-1} \text{ nm}^{-1}$)