

Supporting Information

Preparation and Temperature-controlled Morphology of Helical Microrods Composed of Supramolecular α -Cyclodextrin Assemblies

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1. Rheological properties of organogels formed by mixing a HFIP solution of α -CD and 2-pentanol

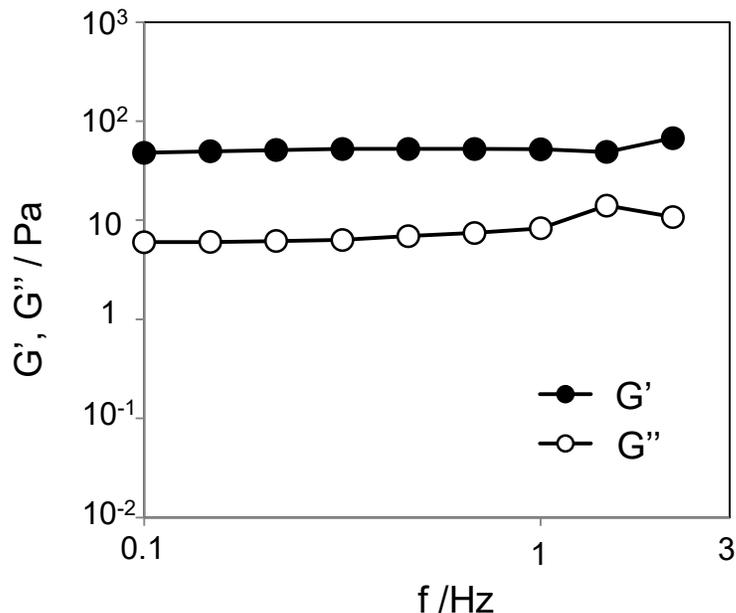


Figure S1. Plots of the storage modulus (G') and the loss modulus (G'') of organogels, which were formed by stirring a mixture of an α -CD/HFIP solution and 2-pentanol for 3 h, followed by allowing to stand for 72 h, against angular frequency (stress: 10 Pa).

2. 2-Pentanol/HFIP molar ratio in the α -CD/HFIP/2-pentanol gel and the solution (supernatant) produced from the gel after about 10 months of storage

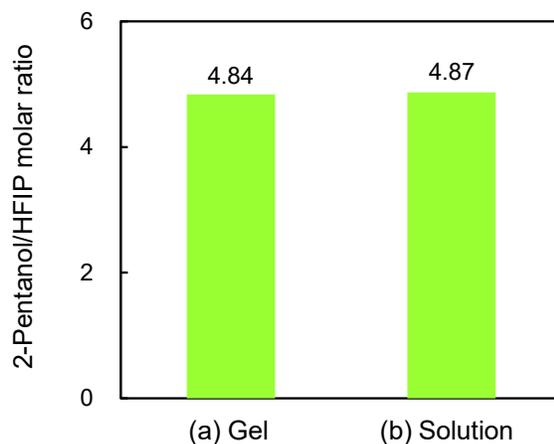


Figure S2. Molar ratio of 2-pentanol to HFIP (a) in the gel formed by stirring a mixture of α -CD/HFIP solution (0.5 mL) [25 mM] and 2-pentanol (2.5 mL) for 3 h, followed by standing for 72 h, and (b) in the solution (supernatant) produced from the gel after standing for about 10 months.

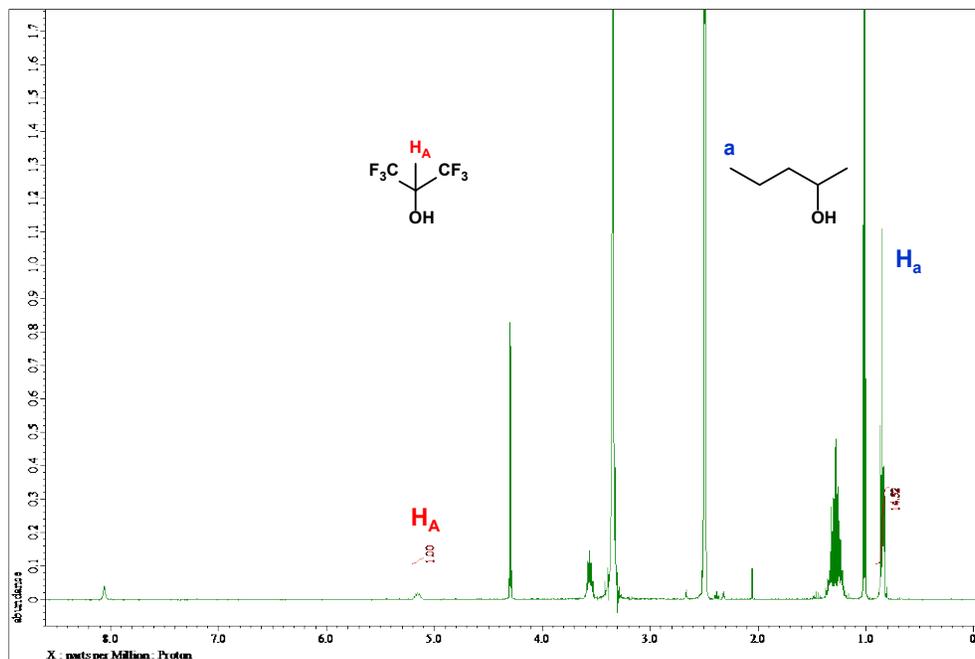


Figure S3. ¹H NMR spectrum (solvent: DMSO-*d*₆) of the gel formed by stirring a mixture of α-CD/HFIP solution (0.5 mL) [25 mM] and 2-pentanol (2.5 mL) for 3 h, followed by standing for 72 h.

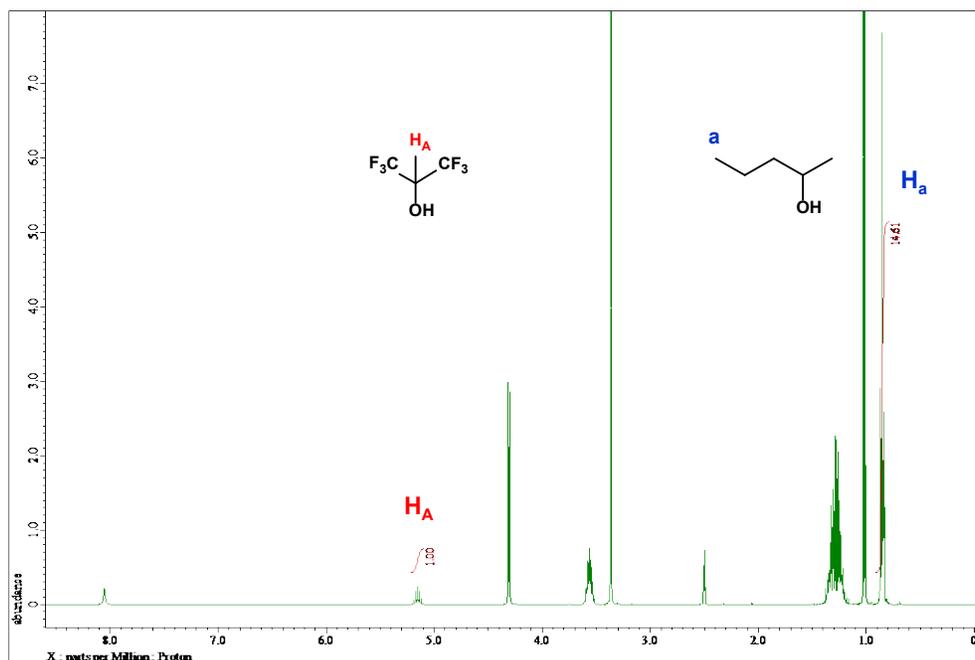


Figure S4. ¹H NMR spectrum (solvent: DMSO-*d*₆) of the solution (supernatant) produced from the α-CD/HFIP/2-pentanol gel after standing for about 10 months.

3. SEM images of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel to stand under high humidity conditions

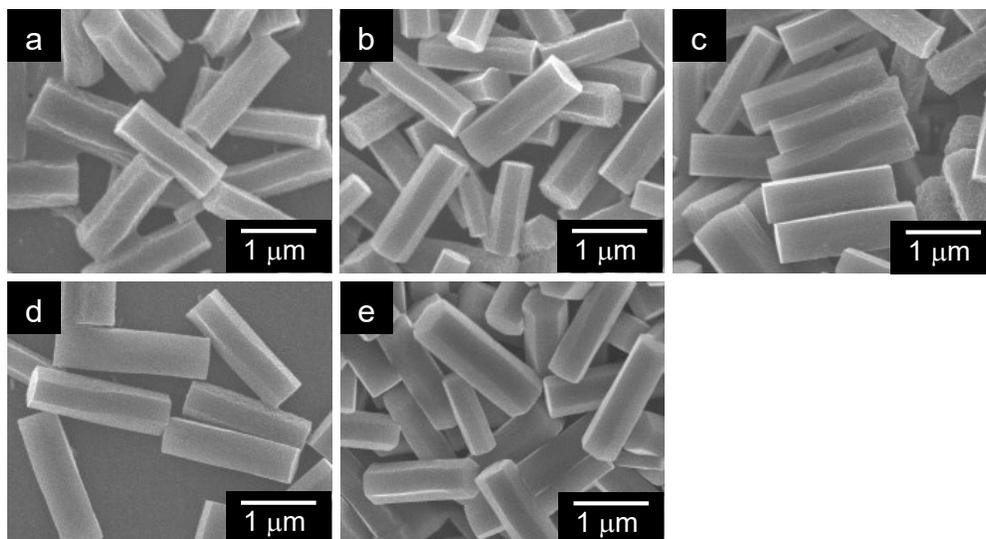


Figure S5. SEM images of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 20 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

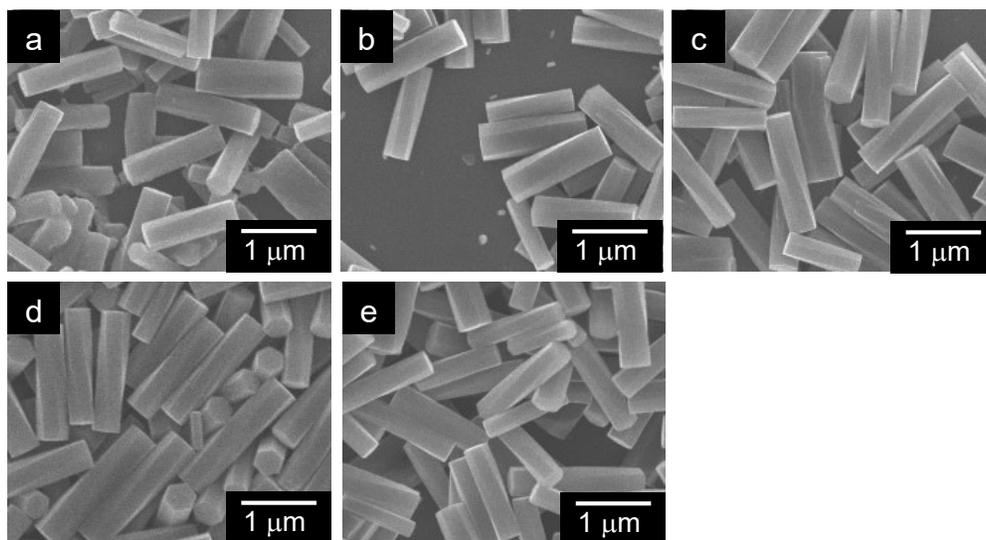


Figure S6. SEM images of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 30 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

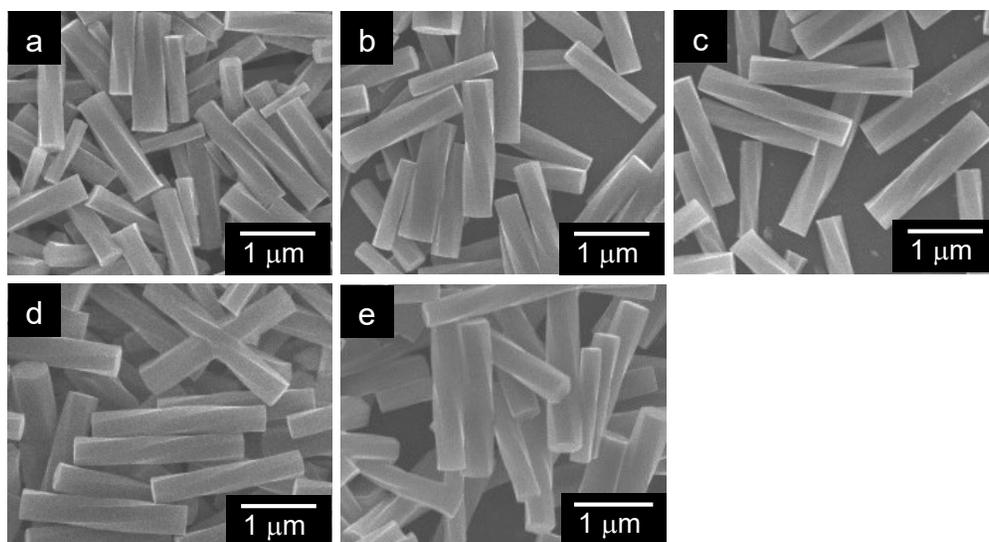


Figure S7. SEM images of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 40 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

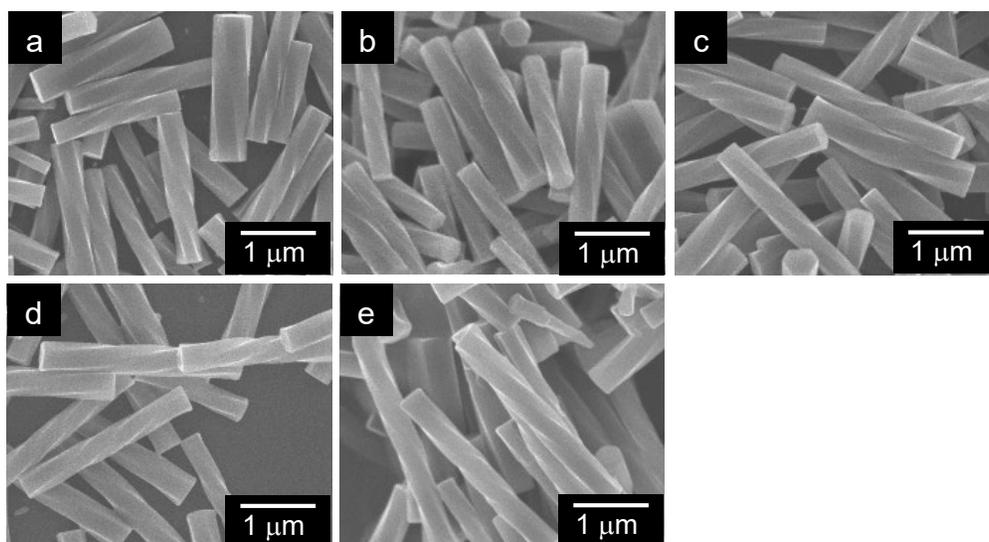


Figure S8. SEM images of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 50 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

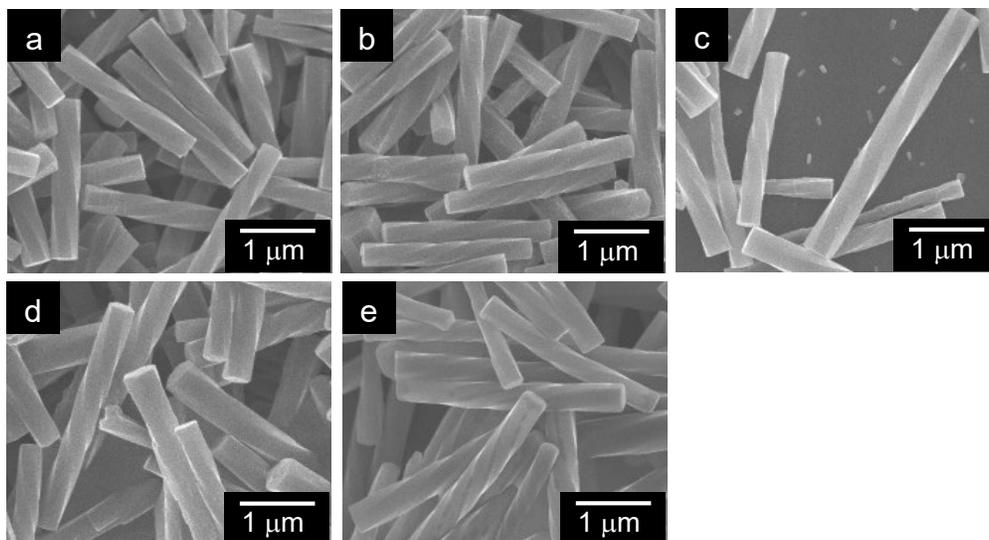


Figure S9. SEM images of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 60 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

4. XRD patterns of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel to stand under high humidity conditions

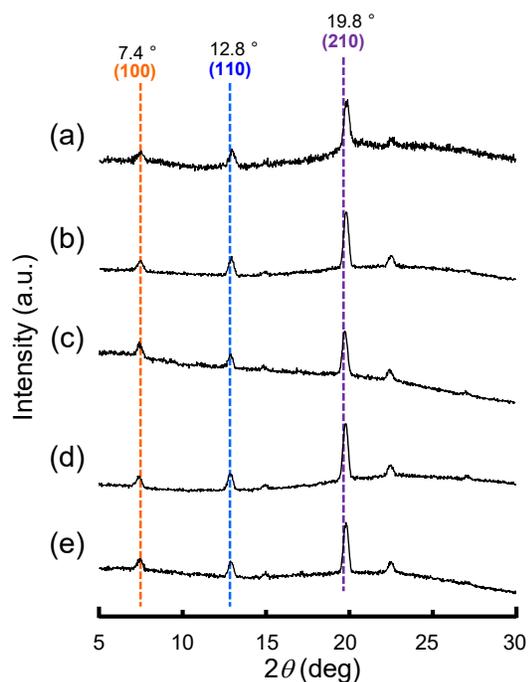


Figure S10. XRD patterns of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 20 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

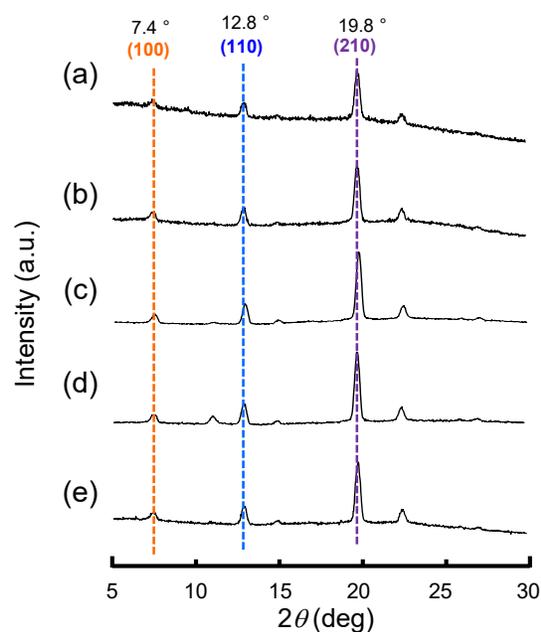


Figure S11. XRD patterns of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 30 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

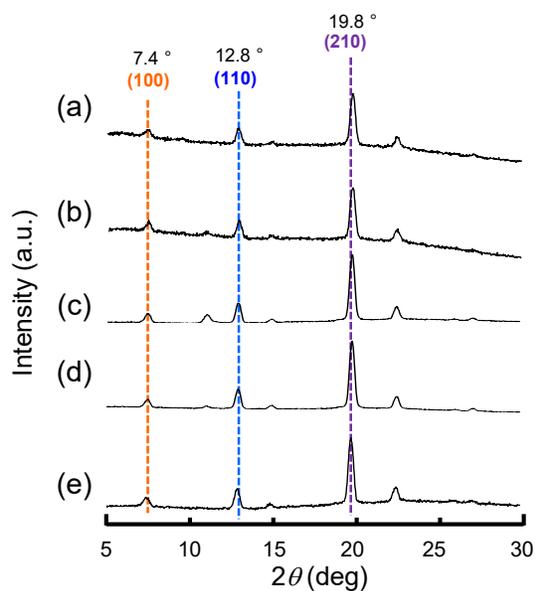


Figure S12. XRD patterns of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 40 °C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

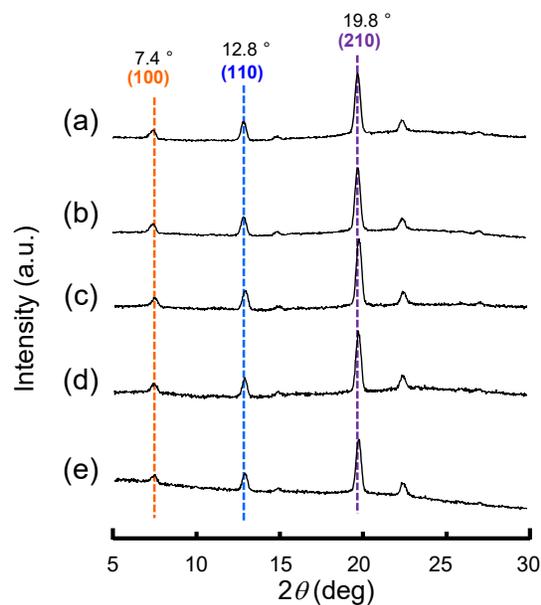


Figure S13. XRD patterns of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 50°C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

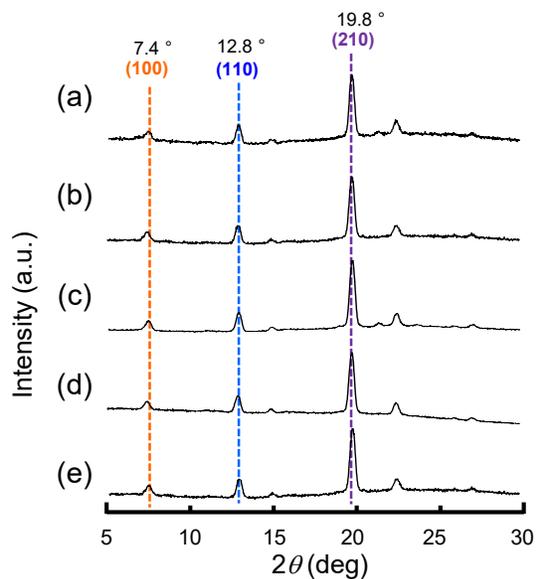


Figure S14. XRD patterns of precipitates obtained by allowing the α -CD/HFIP/2-pentanol gel [an α -CD/HFIP solution [25 mM]:2-pentanol = 1:5 (v/v)] to stand at 60°C under high humidity conditions for (a) 6 h, (b) 12 h, (c) 36 h, (d) 48 h and (e) 120 h.

5. Molar ratios of H₂O and 2-pentanol to α -CD contained in microrods

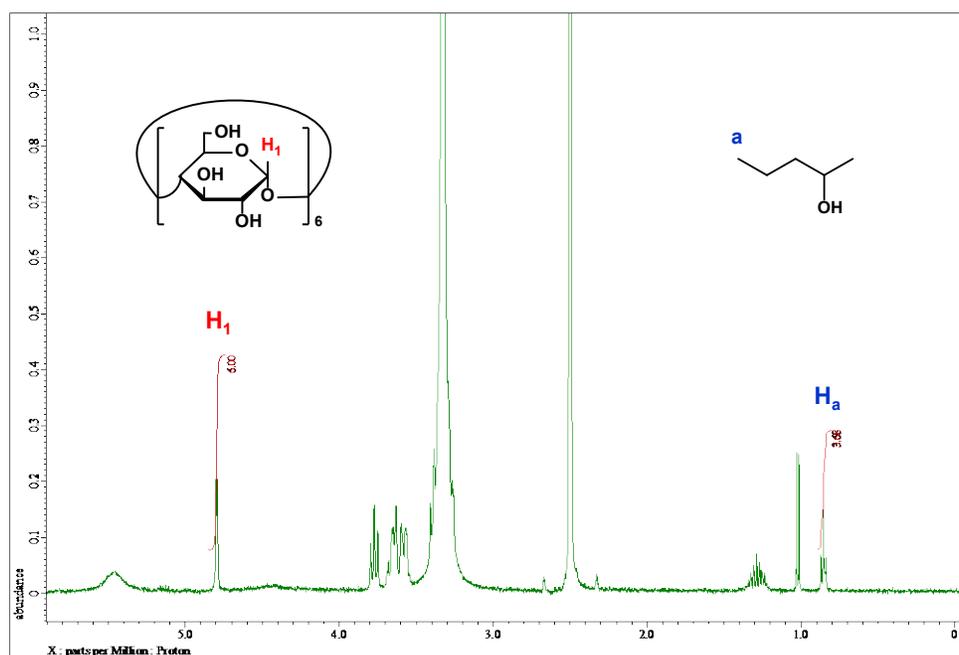


Figure S15. ¹H NMR spectrum (solvent: DMSO-*d*₆) of microrods obtained by allowing the α -CD/HFIP/2-pentanol gel to stand for 120 h at 20 °C under high humidity conditions.

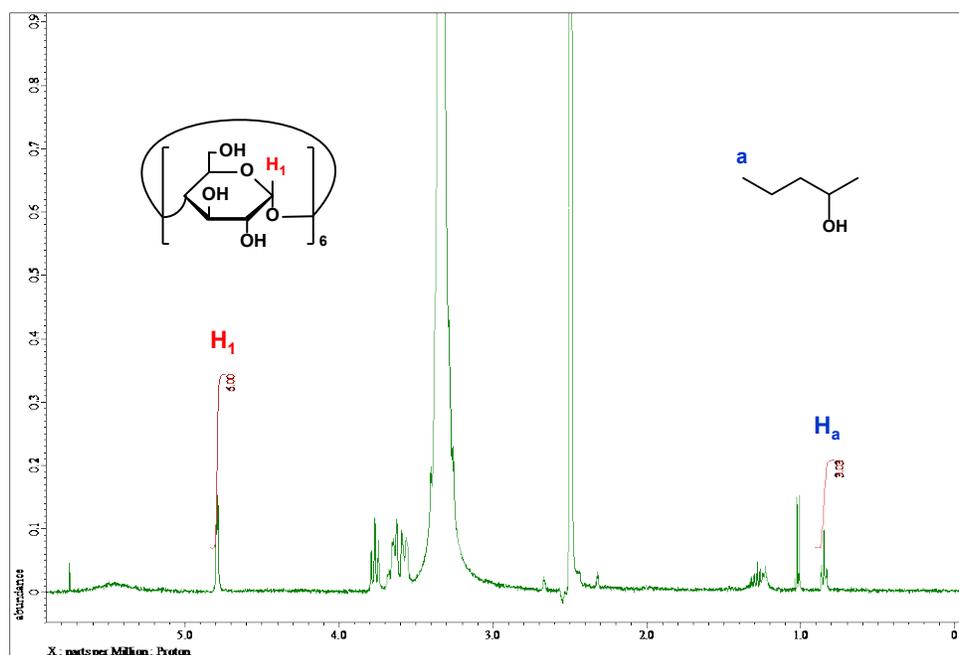


Figure S16. ¹H NMR spectrum (solvent: DMSO-*d*₆) of microrods obtained by allowing the α -CD/HFIP/2-pentanol gel to stand for 120 h at 30 °C under high humidity conditions.

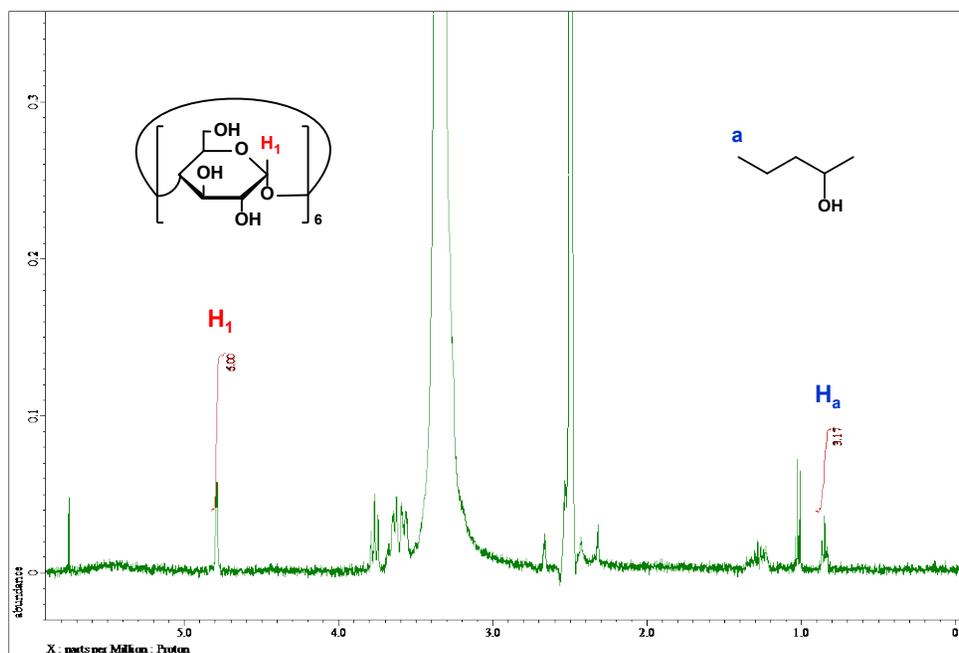


Figure S17. ^1H NMR spectrum (solvent: $\text{DMSO-}d_6$) of microrods obtained by allowing the α -CD/HFIP/2-pentanol gel to stand for 120 h at 40 °C under high humidity conditions.

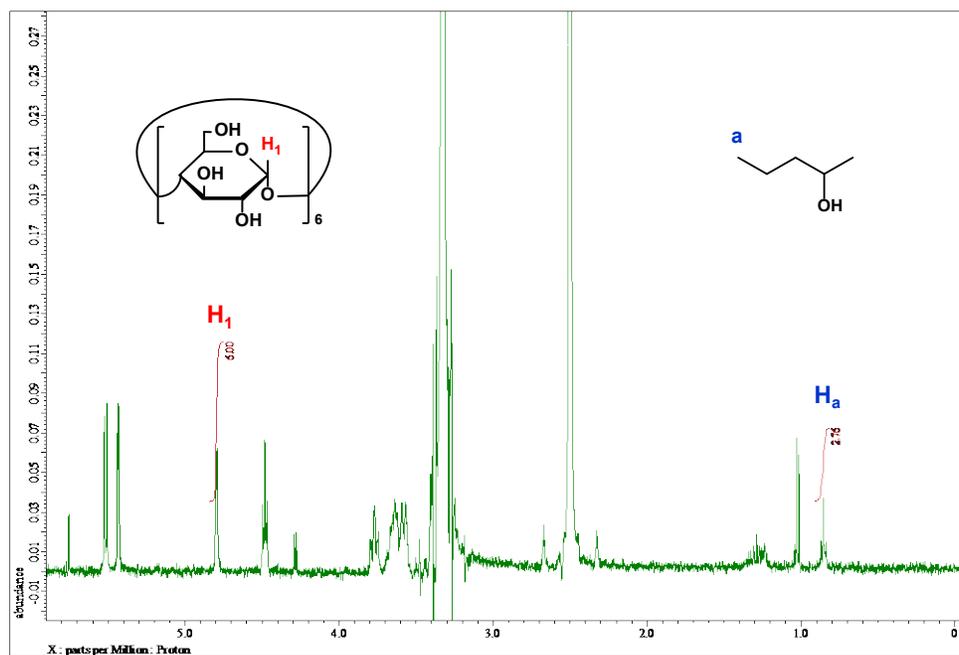


Figure S18. ^1H NMR spectrum (solvent: $\text{DMSO-}d_6$) of microrods obtained by allowing the α -CD/HFIP/2-pentanol gel to stand for 120 h at 50 °C under high humidity conditions.

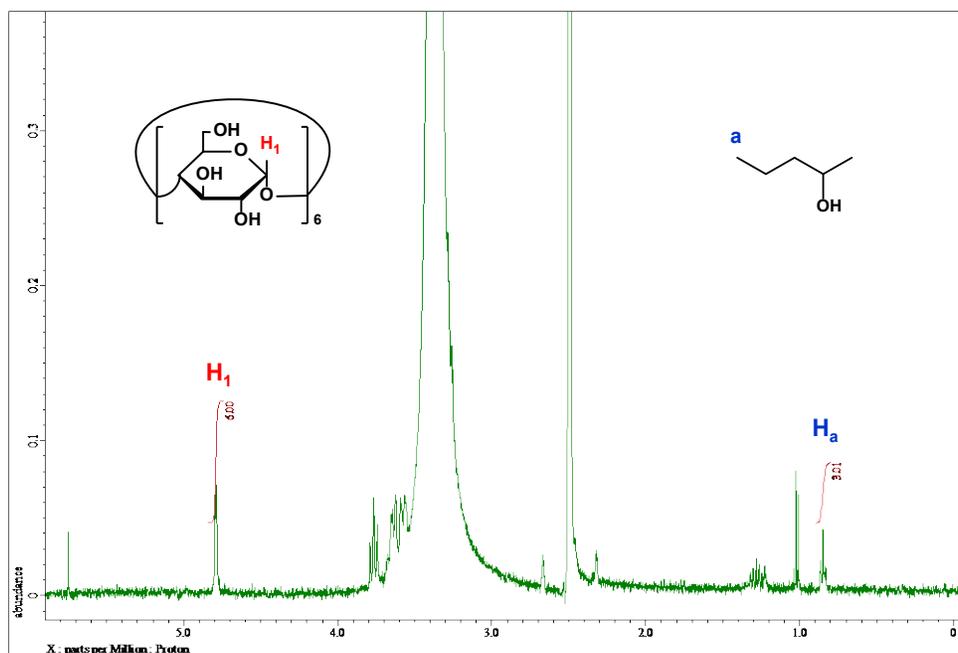


Figure S19. ^1H NMR spectrum (solvent: $\text{DMSO-}d_6$) of microrods obtained by allowing the α -CD/HFIP/2-pentanol gel to stand for 120 h at 60 °C under high humidity conditions.

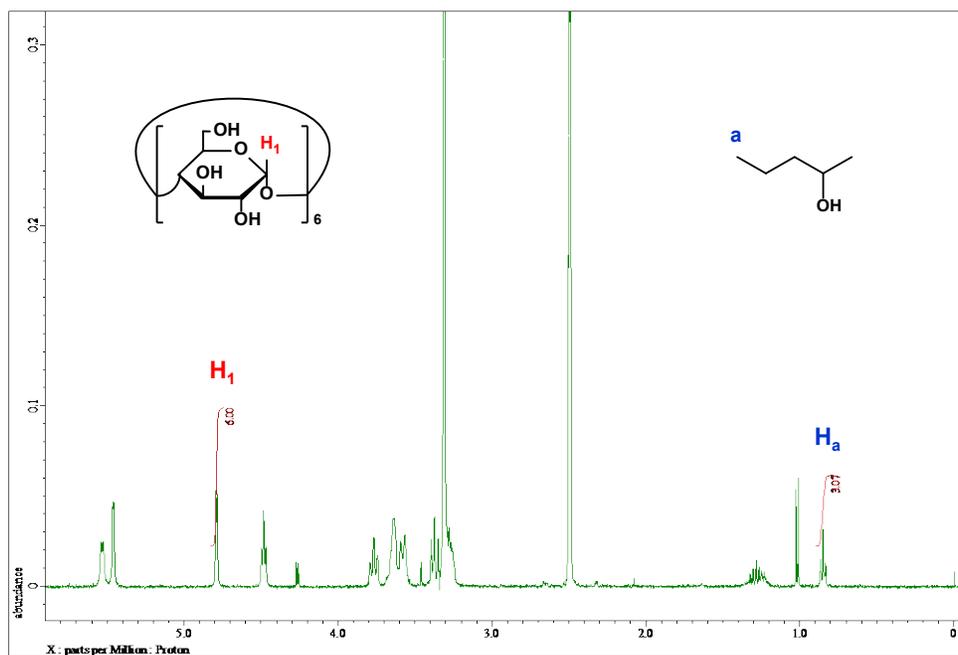


Figure S20. ^1H NMR spectrum (solvent: $\text{DMSO-}d_6$) of the solid obtained after drying the α -CD/HFIP/2-pentanol gel for 24 h *in vacuo*.