Electronic Supplementary Material (ESI) for Soft Matter.

Supporting Information

A facile approach to construct vesicles by usual aromatic molecules with β-cyclodextrin

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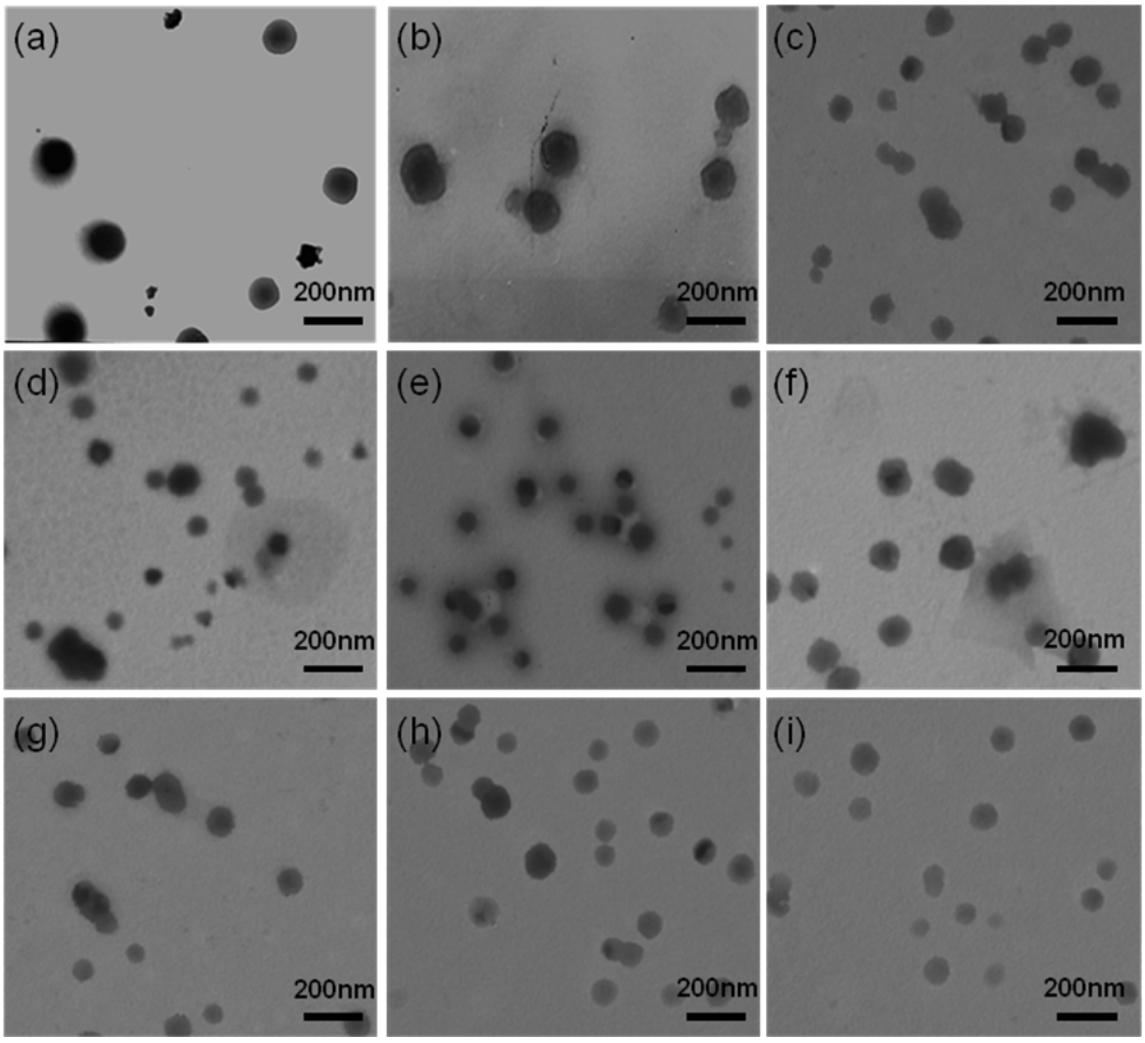

Fig. S1 TEM images of the micromorphology of the vesicular samples formed by (a) Phenol; (b) Phenoxymethane; (c) Phenylamine; (d) Nitrobenzene; (e) Benzaldehyde; (f) Phenylethanone; (g) Chlorobenzene; (h) Benzyl chloride; (i) Benzoic acid.

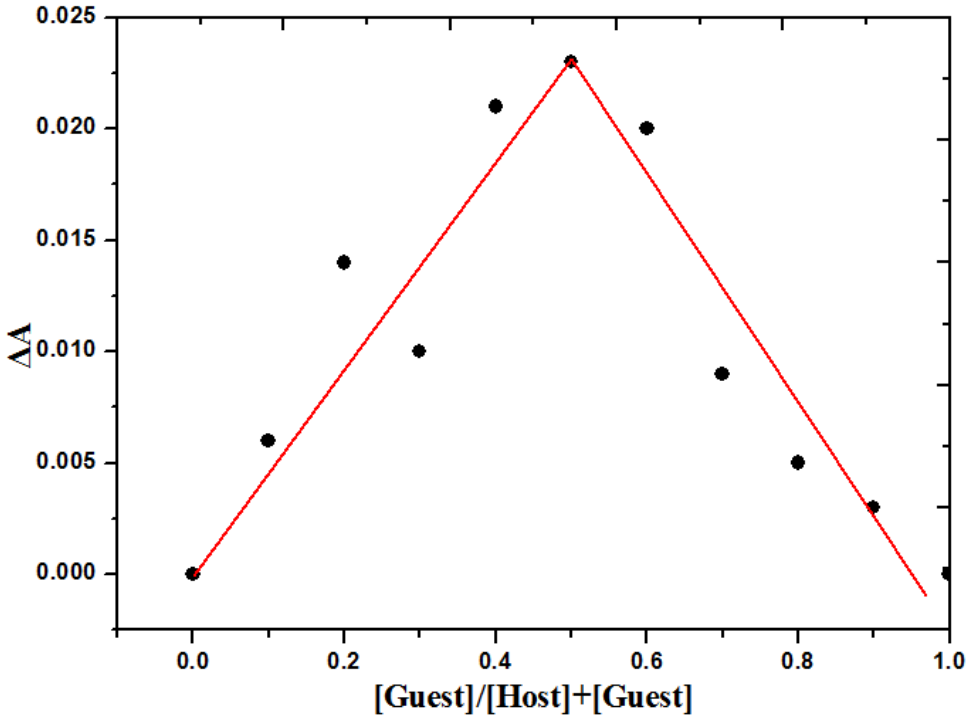

Fig. S2 Job's plot of L-phenylalanine/β-CD complexes.

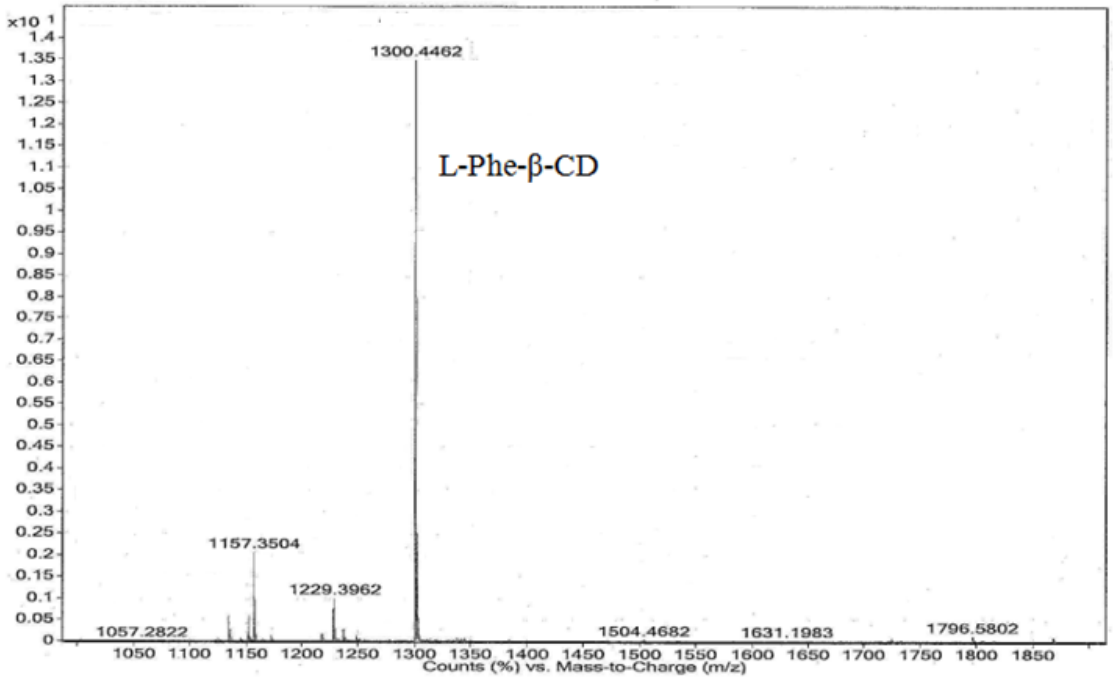

Fig.S3 ESI-MS spectrumof L-phenylalanine/β-CD complex.

Synthesis of (4-phenylazo-phenoxy) acetate acid.

4-hydroxyl azobenzene was synthesized as follows: phenylamine (1.86g, 20 mmol) was dissolved in 25ml water and concentrated hydrochloric acid (HCl, 12 mol/L, 5 mL) was added at 0℃. A solution of sodium nitrite (1.49g, 21 mmol) in water (10 mL) was added dropwise while the temperature was maintained below 5 ℃. After stirring for 20 min, a solution of benzenediazonium chlorides was prepared. Subsequently, the solution of was added gradually into a mixture of phenols (1.88g, 20 mmol), sodium hydroxide (NaOH, 20 mmol), ethanol (15 mL) and water (25 mL) at 0-5 ℃. The mixture was continued to stir for 3-6 h until a lot of precipitate was produced. The solid was filtered, washed with water (3 × 20 mL) and used without purification.

Then 4-hydroxyl azobenzene (1.98 g, 10 mmol), ethyl bromoacetate (2.09 g, 12.5 mmol), and sodium hydroxide (0.4 g, 10 mmol) was added to a flask containing 50 mL of ethanol. The mixture was refluxed for 5 h and cooled in an ice bath. The precipitate was collected, recrystallized from heptanes and then dissolved in water. With the addition of HCl, yellow solid was precipitate, filtered and collected. Yield: 47 %.
^{1}H NMR (300 MHz, DMSO), δ: 13.12 (s, 1 H), 7.91-7.84 (m, 4 H), 7.61-7.53 (m, 3 H), 7.14-7.11 (d, 2 H), 4.81 (s, 2 H). m/z: 254.1.

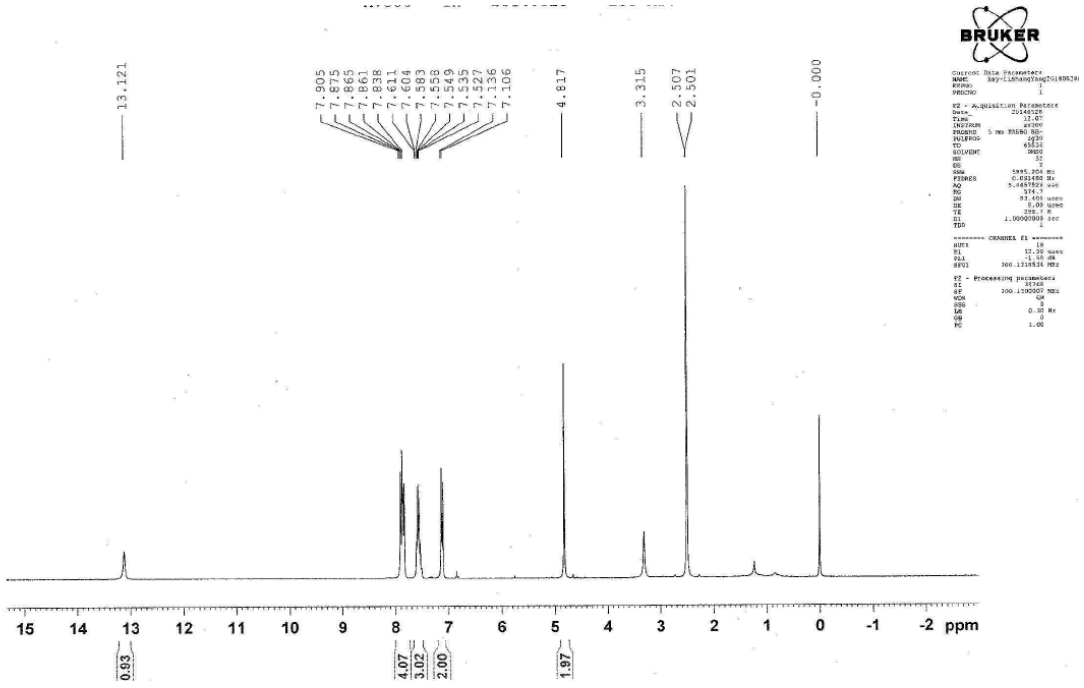

Fig. S4 ^{1}HNMR spectra of (4-phenylazo-phenoxy) acetate acid.