

Electronic Supplementary Information for

Phenylenediamine-based carbon dots-modified silica stationary phase for hydrophilic interaction chromatography

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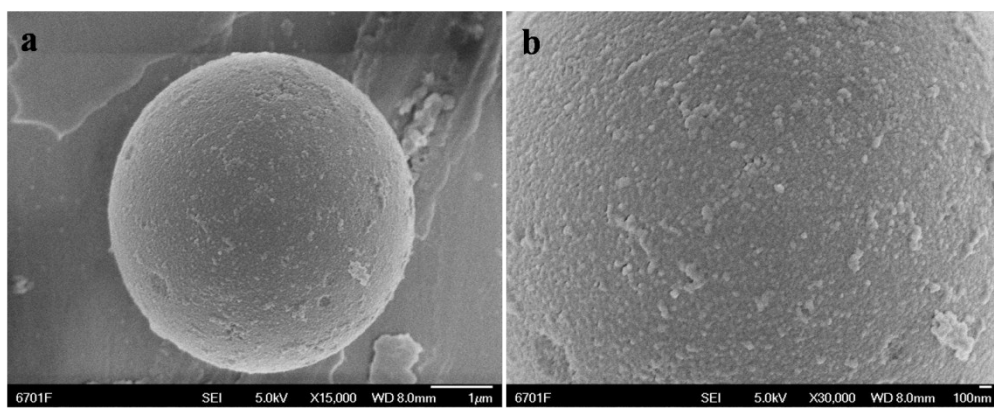


Fig. S1. SEM (a) and HRSEM (b) images of Sil-PPDCDs.

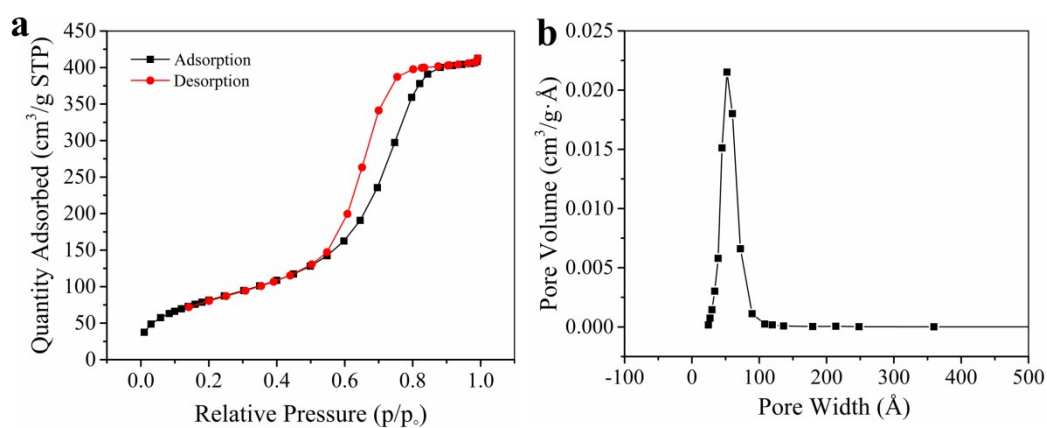


Fig. S2. (a) Nitrogen sorption isotherms at -196 °C and (b) pore size distribution curve of Sil-PPDCDs.

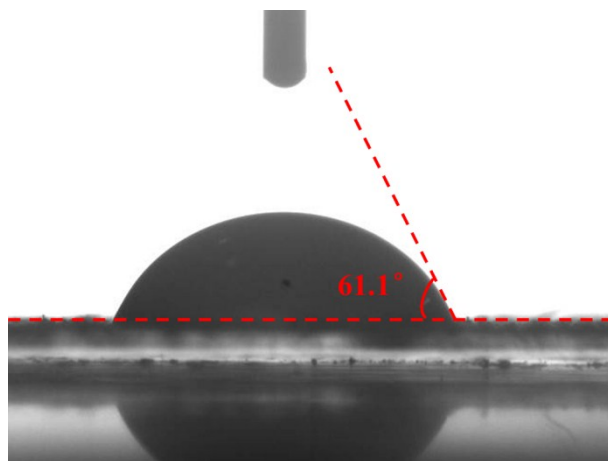


Fig. S3. Wettability test of Sil-PPDCDs.

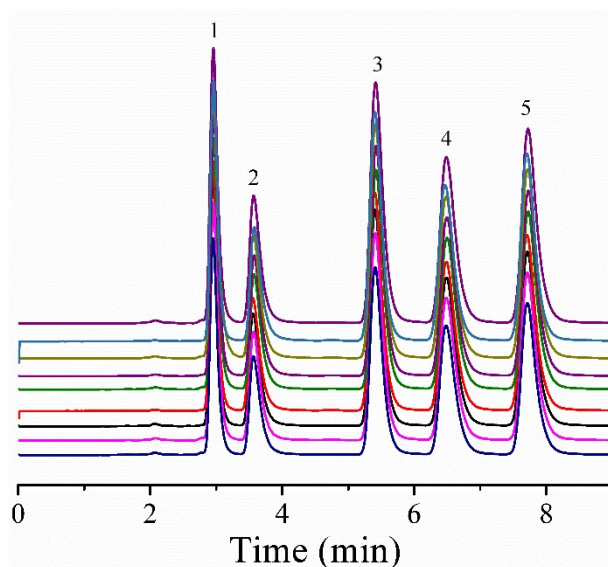


Fig. S4. The reproducibility investigation of Sil-PPDCDs column with uracil (1), uridine (2), hypoxanthine (3), adenine (4), cytosine (5); Mobile phase: 90% acetonitrile: 10% 20 mM ammonium acetate solution, pH: 6.62, flow rate: 1.0 mL·min⁻¹, T: 35 °C, UV detection: 254 nm.

Table S1. Elemental analysis of the prepared materials.

Materials	N(%)	C (%)	H (%)
PPDCDs	16.10	56.56	5.41
Sil-PPDCDs	0.38	5.68	1.17
Sil-PPD	2.15	15.48	2.21

Table S2. Intra-day, inter-day and batch to batch RSDs of the retention factors for nucleosides and bases.

Samples	Intra-day (RSD, %)			Inter-day (RSD, %)	Batch to batch (RSD, %)
	1	2	3		
Uracil	0.19	0.16	0.21	0.19	1.12
Uridine	0.40	0.17	0.20	0.24	2.22
Hypoxanthine	0.36	0.12	0.20	0.22	3.57
Adenine	0.12	0.07	0.20	0.12	2.71
Cytosine	0.06	0.09	0.11	0.09	2.32

Table S3. The asymmetric factors (T_f) of 10 saccharides on different columns.

Analytes	Sil-PPDCDs	Sil-PPD	Sil-NH ₂	HILIC
deoxyribose	1.15	1.39	2.56	1.82
ribose	1.14	1.72	1.12	1.28
lyxose	1.28	1.61	1.20	1.45
arabinose	1.18	1.64	0.76	2.08
xylitol	1.32	1.61	/	/
sucrose	1.15	1.35	0.61	1.32
cellobiose	1.14	/	1.45	1.27
lactulose	1.10	1.23	0.74	1.15
melezitose	1.52	1.25	0.74	1.56
kapok sugar	1.15	0.76	/	0.91

Note: “/” means none.