Support Information

A soluble nanographene as a novel cool matrix for small molecular analysis by using MALDI-TOF MS

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SUPPLEMENTARY INFORMATION

FIGURE CAPTIONS

1. Supplementary **Figure S 1.** The structure of hexaperi-hexabenzocircumcoronenes (HBCCs)
2. Supplementary **Figure S2.** MALDI spectra of sulfathiazole with five different matrixes: (a) is CHCA; (b) is THAP; (c) is DHB; (d) is graphene; (e) is HBCCs.
3. Supplementary **Figure S3.** The MALDI spectra of three conventional matrixes: CHCA (a), THAP (b), DHB (c); and the new matrix HBCCs (d). The molecular weight of interference peaks were showed in this picture.
4. The Table S2 displayed the interference peaks and the fragment's structure of these four matrixes.
5. Supplementary **Figure S4.** MALDI-TOF mass spectra of (a) is sulfathiazole (m/z 294.0, $[M + K]^+$), (b) is sulfamerazine (m/z 303.1, $[M + K]^+$) and (c) is sulfadimidine (m/z 317.1, $[M + K]^+$); and (d) is norfloxacin (m/z 320.1, $[M + H]^+$; m/z 332.1, $[M + Na]^+$), (e) is ciprofloxacin (m/z 342.1, $[M + H]^+$; m/z 354.2, $[M + Na]^+$), (f) is ofloxacin (m/z 362.1, $[M + H]^+$; m/z 384.1, $[M + Na]^+$).

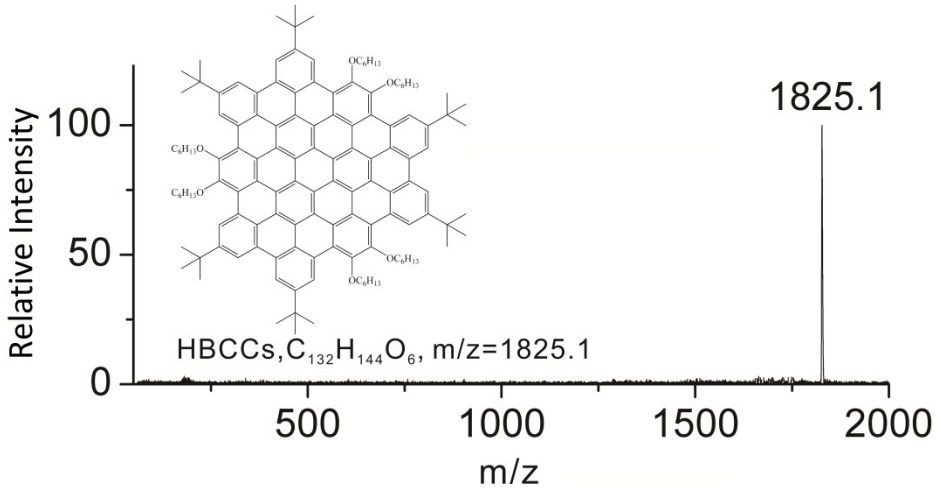


Figure S 1. The structure of hexaperi-hexabenzocircumcoronenes (HBCCs)

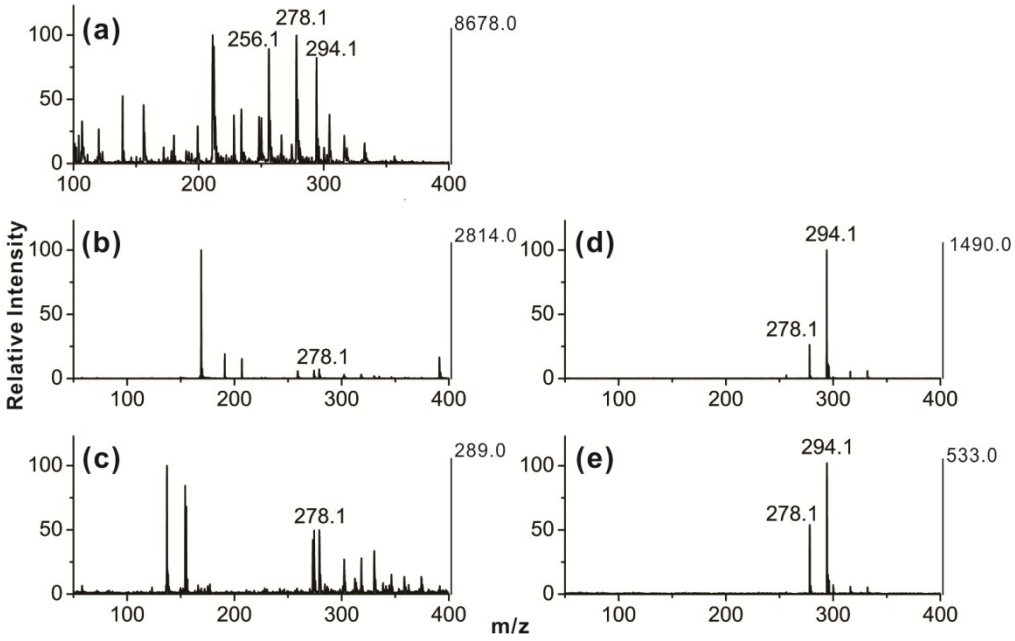


Figure S2. MALDI spectra of sulfathiazole with five different matrixes: (a) is CHCA; (b) is THAP; (c) is DHB; (d) is graphene; (e) is HBCCs.

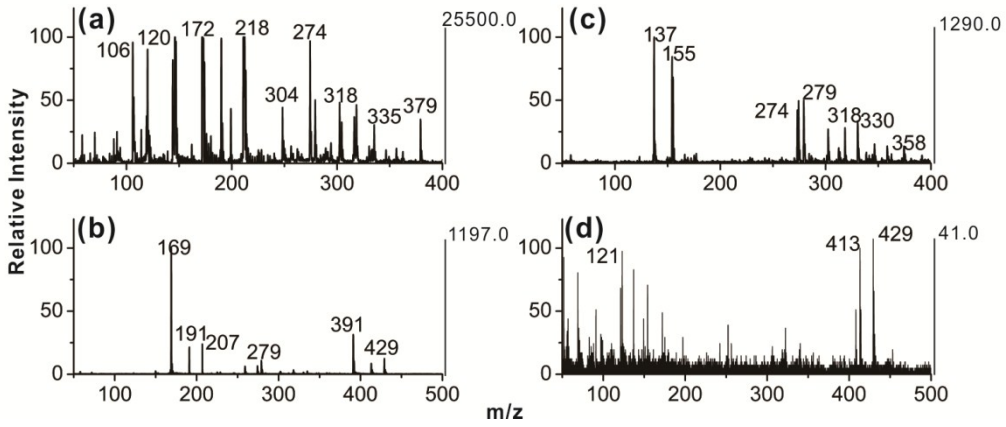
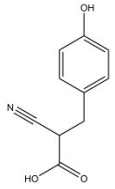
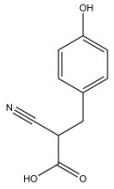
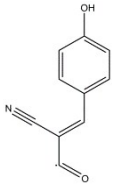
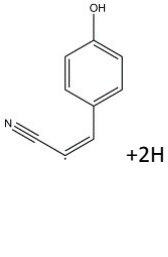
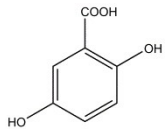
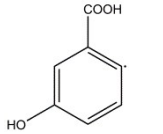
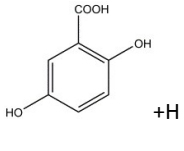
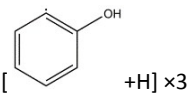
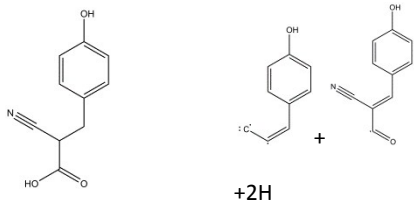
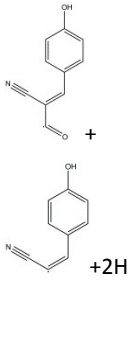
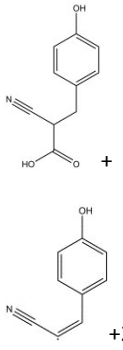
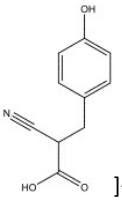


Figure S3. The MALDI spectra of three conventional matrixes: CHCA (a), THAP (b), DHB (c); and the new matrix HBCCs (d). The molecular weight of interference peaks were showed in this picture. And then the Table S2 displayed the interference peaks and the fragment's structure of these four matrixes.

Table S 1. The structure of the matrix interference peaks for Figure S3.

MALDI Matrix		Ionized peak		
	1	2	3	4
CHCA	189	172	146	274
				
DHB	137	155	274	279
				
HBCCs	-	-	-	-

MALDI Matrix		Ionized pesk		
	5	6	7	8
CHCA	304	318	335	379
				
DHB	302	318	330	

[+H] ×3+Na^+	[+H] ×3+K^+	×3	
HBCCs	-	-	-	-

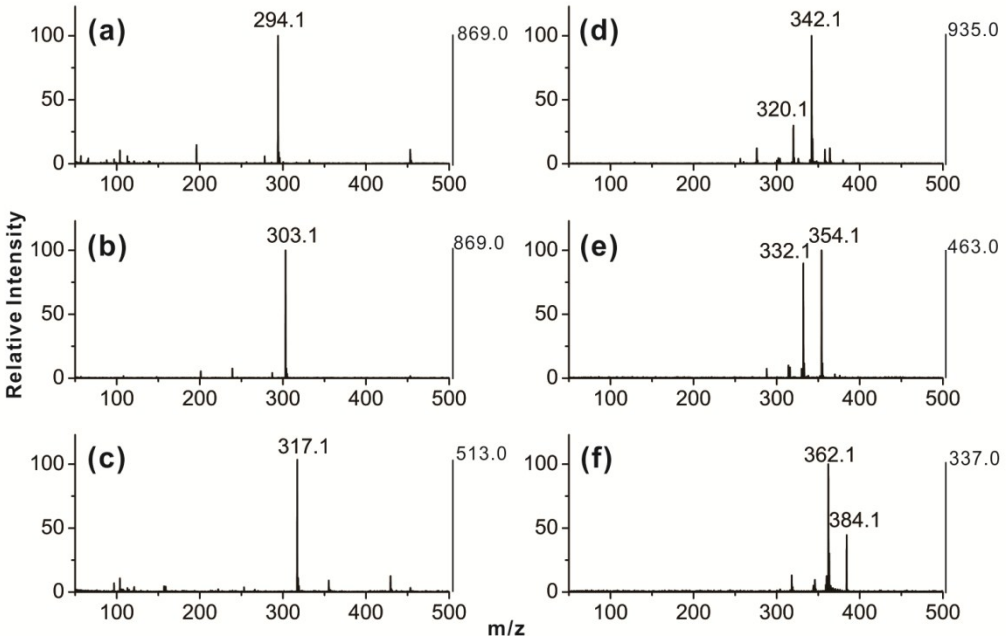


Figure S4. MALDI-TOF mass spectra of (a) is sulfathiazole (m/z 294.0, $[M + K]^+$), (b) is sulfamerazine (m/z 303.1, $[M + K]^+$) and (c) is sulfadimidine (m/z 317.1, $[M + K]^+$); and (d) is norfloxacin (m/z 320.1, $[M + H]^+$; m/z 332.1, $[M + Na]^+$), (e) is ciprofloxacin (m/z 342.1, $[M + H]^+$; m/z 354.2, $[M + Na]^+$), (f) is ofloxacin (m/z 362.1, $[M + H]^+$; m/z 384.1, $[M + Na]^+$).