Electronic Supplementary Information

Detection of humic acid in water using flat-sheet and folded-rod viscous alkaline glucose syrups

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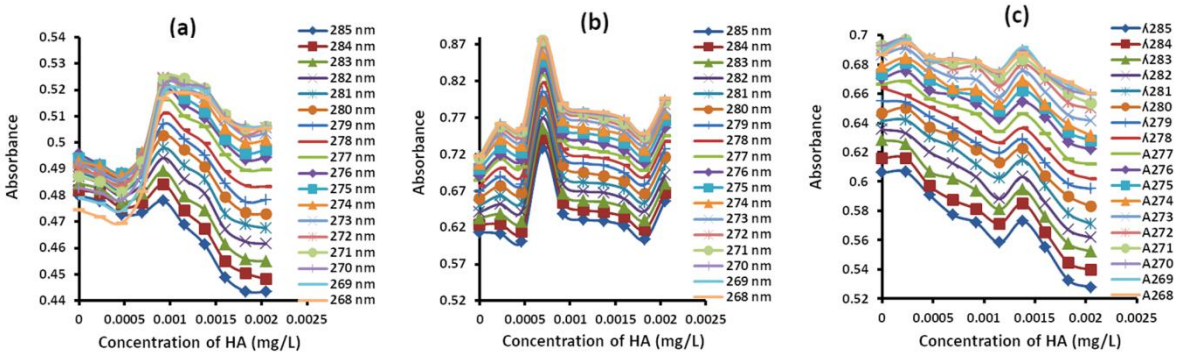

Fig. S1 Comparative sensing of HA using the AGS sensors at different wavelengths. (a) AGS-sheet; (b) AGS-rod; (c) Aged AGS. Amount of HA: 0 -90 µL, 0.070325 mg/L.

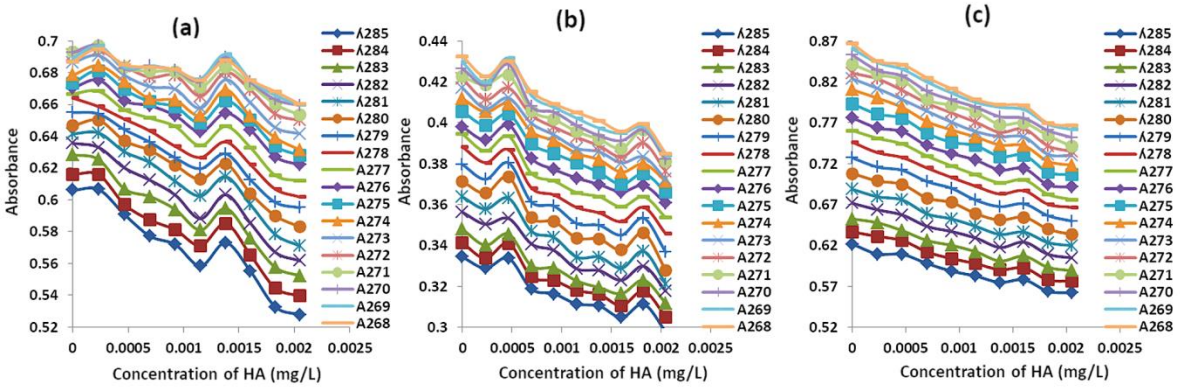

Fig. S2 Comparative sensing of HA using the aged AGS sensor in the presence of sodium acetate and sodium citrate. (a) AGS sensor; (b) AGS sensor + Sodium acetate; (c) AGS sensor + Sodium citrate. Amount of HA: 0 -90 µL, 0.070325 mg/L.

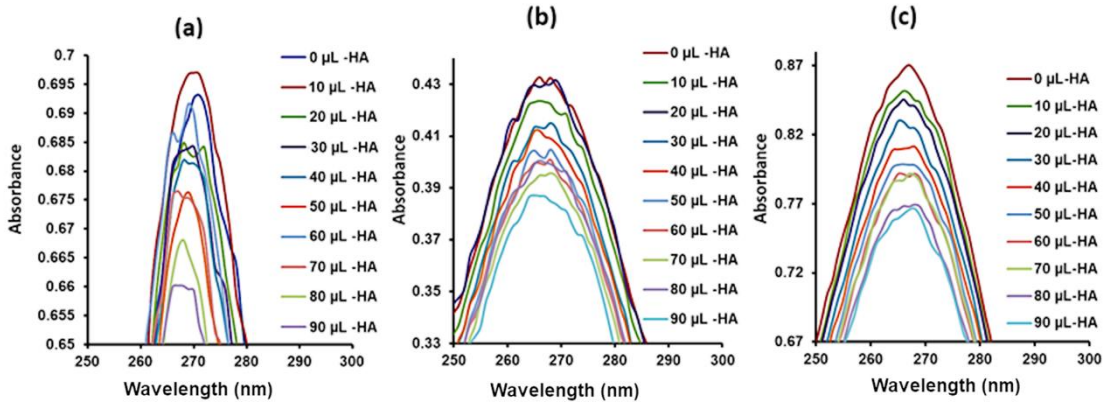

Fig. S3 Comparative sensing (λ_{max} stability). (a) Aged AGS sensor; (b) Aged AGS sensor + Sodium acetate; (c) Aged AGS sensor + Sodium citrate. Amount of HA: 0 -90 µL, 0.070325 mg/L.

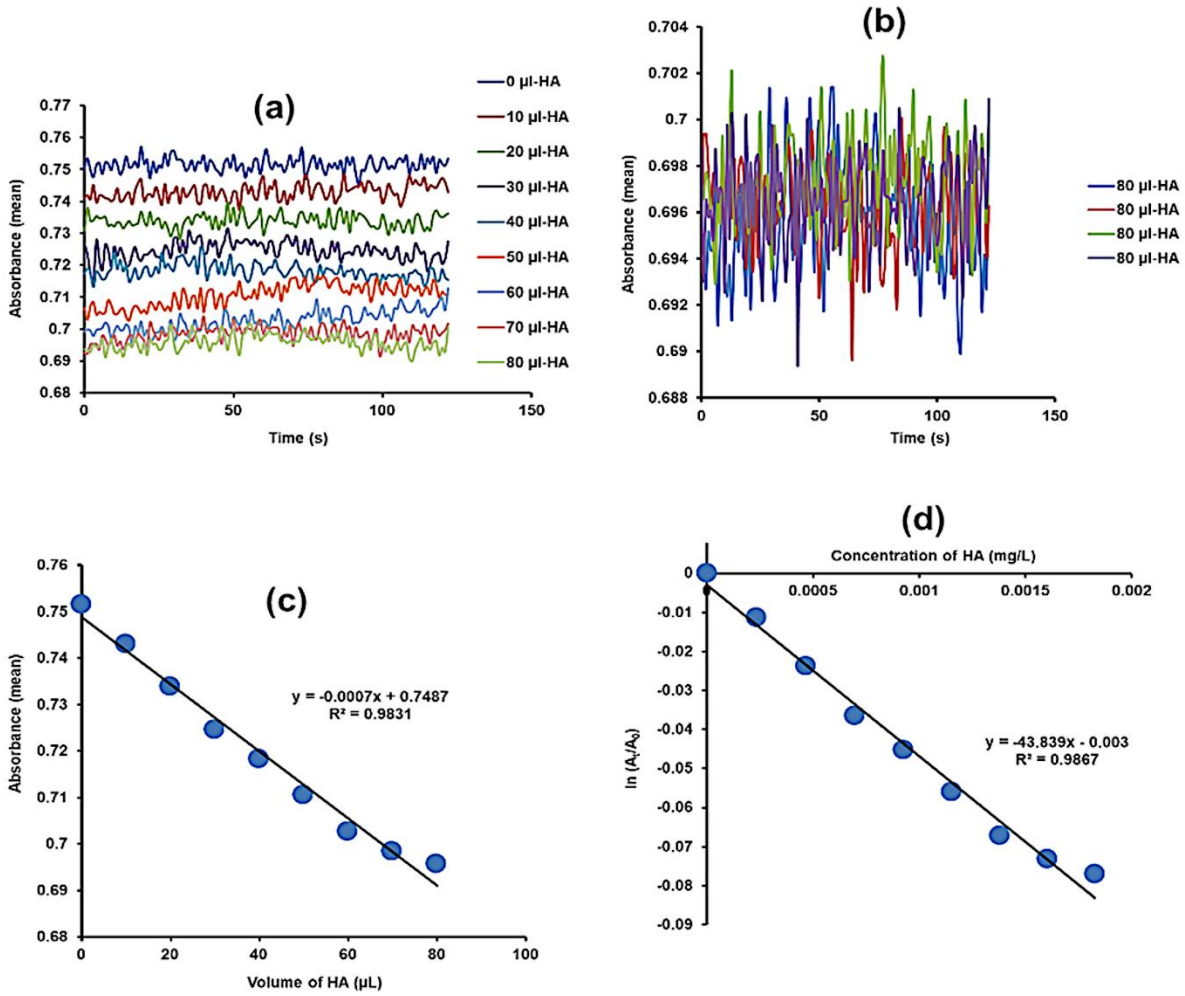

Fig. S4 Detection kinetics. (a) Monitoring the change in the absorbance with time (Total time = 122 s); (b) Repetitive measurement (Total time = 122 s); (c) Plot of absorbance vs. volume of HA; (d) Pseudo-first order reaction plot. Amount of HA: 0 -80 µL, 0.070325 mg/L.

Table S1 Data for detection kinetics.

volume (µL)	Concentration (mg/L)	ln (A_t/A_0)[a]	Absorbance (mean)	%RSD[b]
0	0	1.73E-07	0.751511	0.2833
10	0.0002336	-0.01137	0.743017	0.330742
20	0.0004657	-0.02379	0.733843	0.298935
30	0.0006963	-0.03648	0.724588	0.394377
40	0.0009253	-0.04532	0.718213	0.334366
50	0.001153	-0.056	0.710583	0.492567
60	0.001379	-0.06722	0.702657	0.462366
70	0.001604	-0.07322	0.69845	0.341823
80	0.001827	-0.07708		
80	0.001827	-0.07708		
80	0.001827	-0.07708	0.696472	0.100478
80	0.001827	-0.07708		

[a]A = Absorbance; [b]RSD = Relative standard deviation.

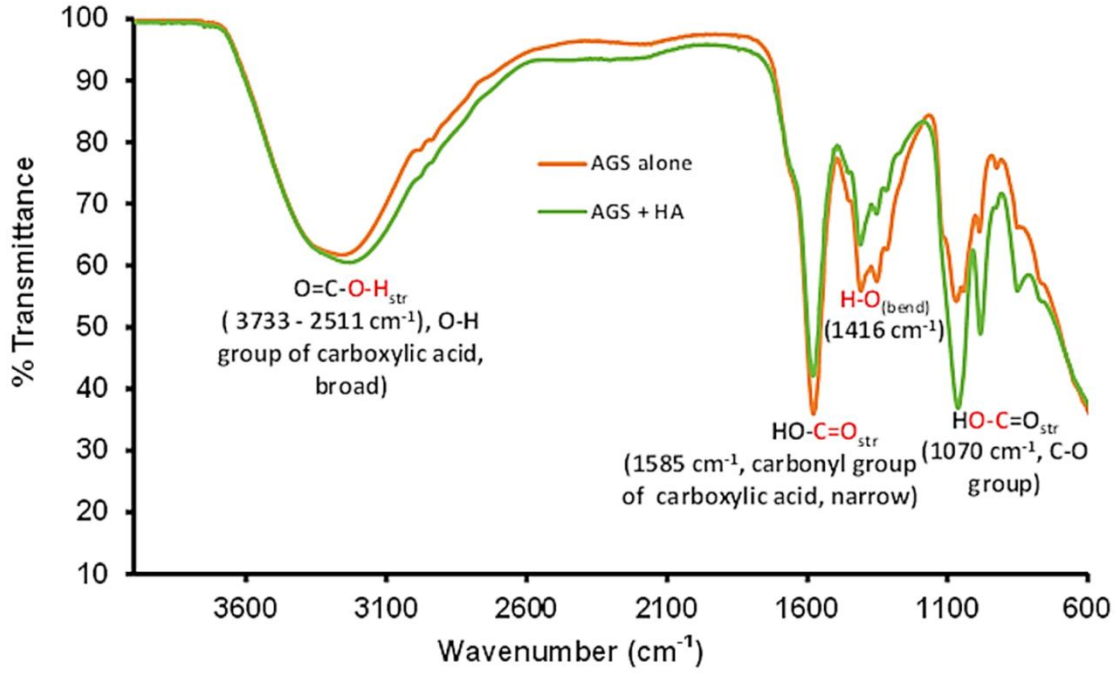

Fig. S5 FTIR analysis of the surface characteristics of the AGS sensor before and after interaction with HA.