

Fluorescent Boronic Acid Polymer Grafted on Silica Particles for Affinity Separation of Saccharides

Zhifeng Xu,^{†,‡,§} Khan Mohammad Ahsan Uddin,[†] Tripta Kamra,^{†,#} Joachim Schnadt,[#] Lei Ye^{†*}

[†] Division of Pure and Applied Biochemistry, Lund University, Box 124, 221 00 Lund, Sweden

[‡] Department of Chemistry and Material Science, Hengyang Normal University, Hengyang, Hunan 421008, China

[§] Key Laboratory of Functional Organometallic Materials, College of Hunan Province, Hengyang, Hunan 421008, China

[#] Division of Synchrotron Radiation Research, Lund University, Box 118, 221 00 Lund, Sweden

1. Solid state ¹¹B MAS NMR

Si@poly(APBA-PA) particles were packed into a 4 mm ZrO MAS rotor for the solid state NMR analysis. The ¹¹B MAS NMR spectrum was obtained by spinning the rotor at 12 kHz in a 500 MHz instrument, using a quadrupole echo sequence without ¹H decoupling.

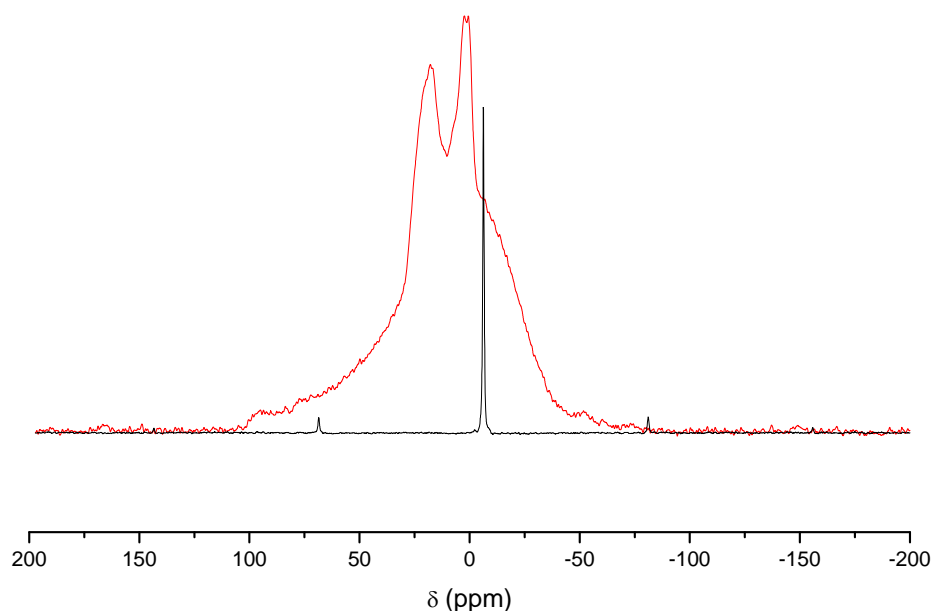


Figure S1. ¹¹B MAS NMR spectrum of Si@poly(APBA-PA) (red) and sodium tetraphenylborate (black).

2. XPS analysis

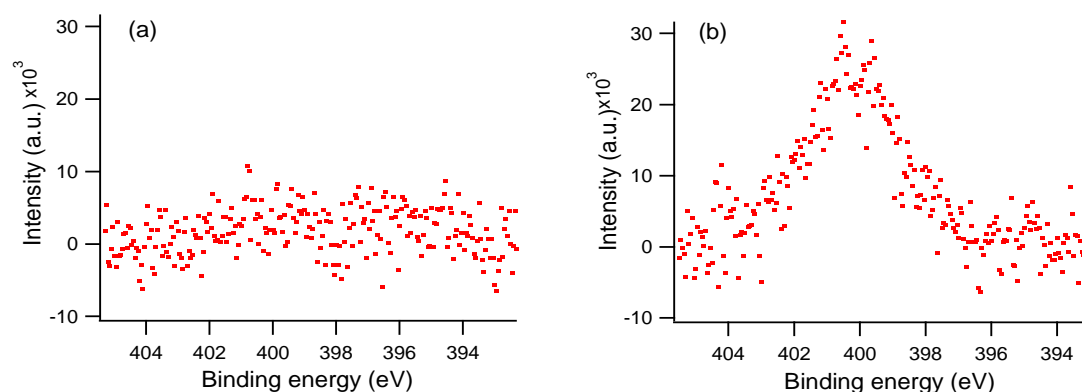


Figure S2. Particle characterization by XPS. N 1s spectrum of Si@initiator (a) and Si@poly(APBA-PA) (b).

3. UV-Vis analysis of ARS solution

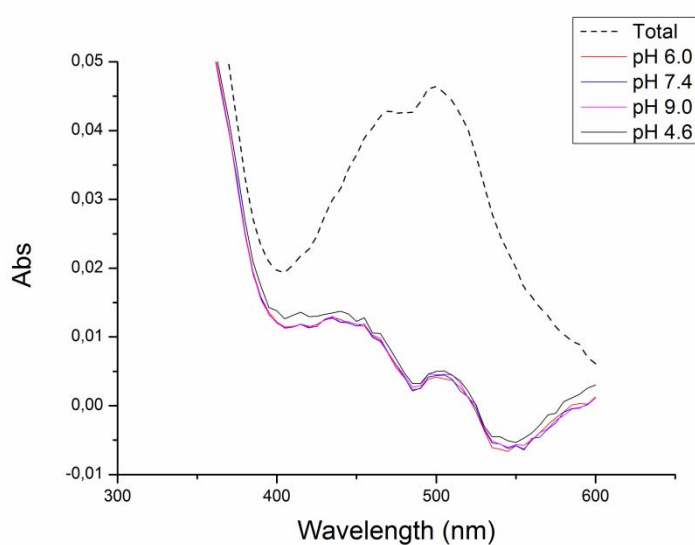


Figure S3. UV-Vis spectra of ARS solution before (dotted line) and after (solid lines) being treated with 3 mg of Si@poly(APBA-PA) in 1 mL of buffers at different pH values. Initial ARS concentration was 0.1 mM. Before collecting the spectra, all the solutions were diluted 10 folds with 0.1 M PBS buffer (pH 7.4).