Supporting Information

Selective formation of the *rctt* chair stereoisomers of octa-*O*-alkyl resorcin[4]arenes using Brønsted acid catalysis

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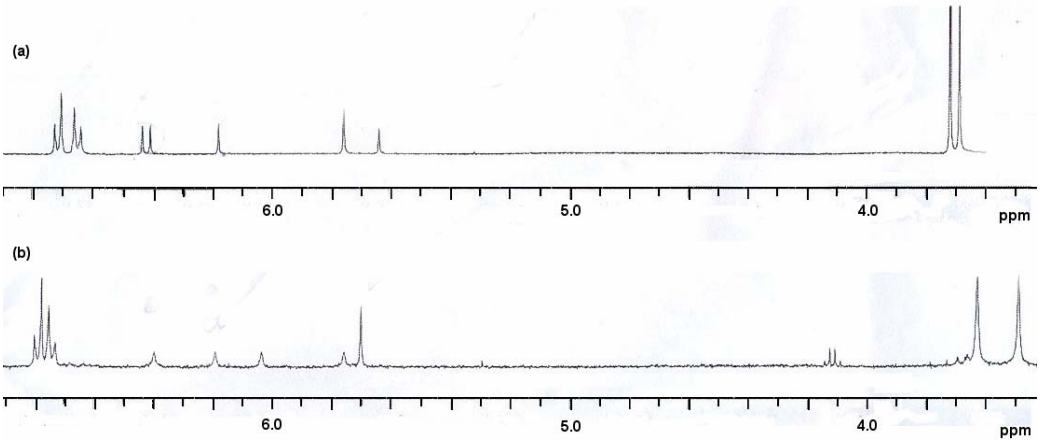

Figure 1: Partial ^{1}H NMR (400 MHz, $CDCl_3$) of (a) *rctt* chair **20b**) and (b) flattened boat *rccc* **20a**

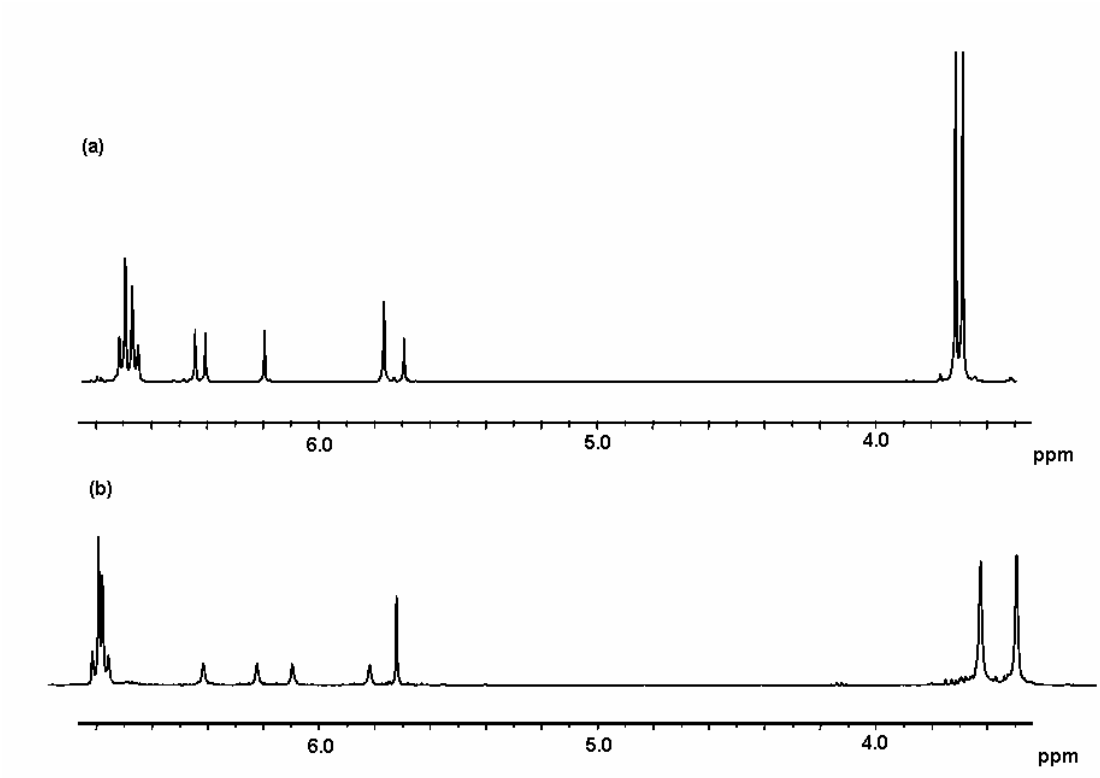

Figure 2: Partial ^{1}H NMR (400 MHz, $CDCl_3$) of (a) *rctt* chair **21b**) and (b) flattened boat *rccc* **21a**

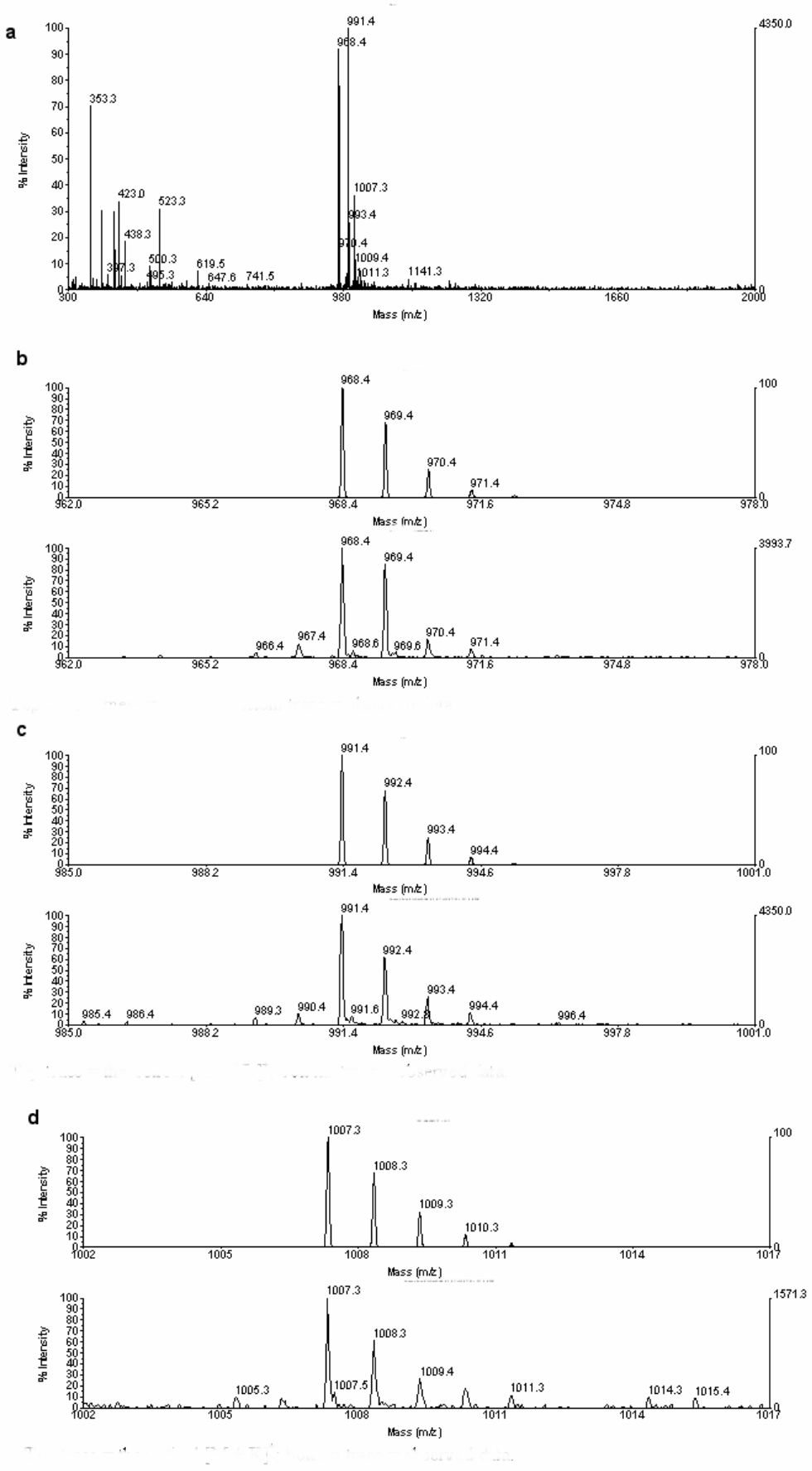

Figure 2: Maldi Mass Spectra for **3a** (a) complete trace (b) M^+ (c) $[M+Na]^+$ (d) $[M+K]^+$. Top trace theoretical, bottom trace observed data

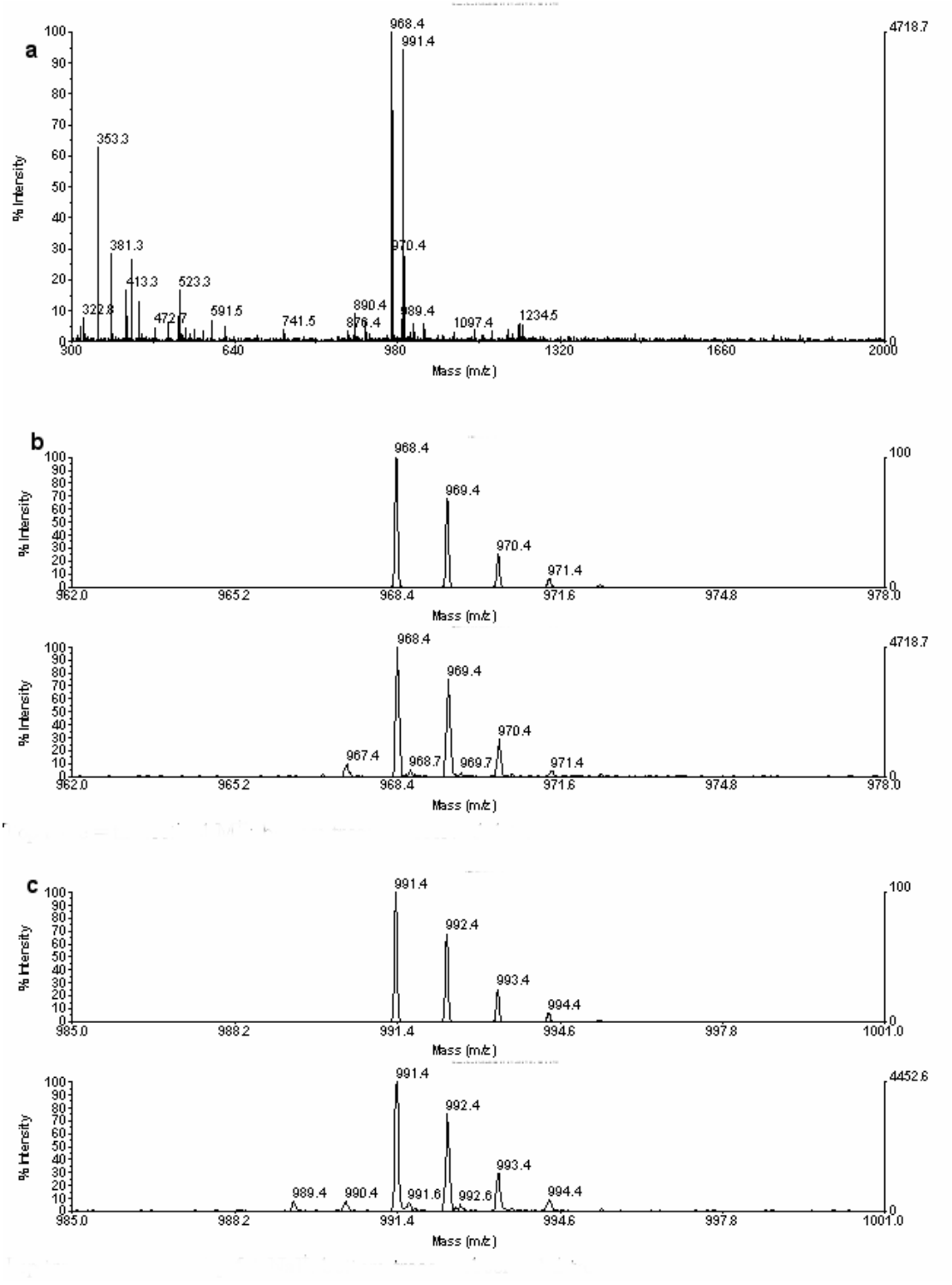

Figure 3: Maldi Mass Spectra for **3b** (a) complete trace (b) M^+ (c) $[M+Na]^+$. Top trace theoretical, bottom trace observed data

^{1}H NMR data for *rccc* boat isomers (not isolated) from low temperature H_2SO_4 catalysis in acetic acid

Compound **12**
^{1}H NMR (400 MHz, $CDCl_3$) δ 6.72 (d, *J* = 8.5 Hz, 8H, ArH), 6.59 (d, *J* = 8.5Hz, 8H, ArH), 6.15 (s, 4H, ArH), 5.98 (s, 4H, ArH), 5.68 (s, 4H, ArCH), 3.92 (t, *J* = 7.5 Hz, 8H, OCH_2), 3.69 (s, 12H, OCH_3), 3.65 (s, 12H, OCH_3), 1.80 (m, 8H, OCH_2CH_2), 1.2-1.5 (m, 40H, $(CH_2)_5CH_3$), 0.91 (t, *J* = 7 Hz, 12H, CH_3)

Compound **13**
^{1}H NMR (400 MHz, $CDCl_3$) δ 6.40 (s, 4H, ArH), 6.35 (s, 4H, ArH), 4.65 (q, *J* = 7.0 Hz, 4H, ArCH), 3.61 (s, 24H OCH_3), 1.31 (d, *J* = 7.0 Hz, 12H, $CHCH_3$)

Compound **14**
^{1}H NMR (400 MHz, $CDCl_3$) δ 6.61 (s, 4H, ArH), 6.35 (s, 4H, ArH), 4.61 (t, *J* = 7.6 Hz, 4H, ArCH), 3.63 (s, 24H, OCH_3), 1.69 (m, 8H, CH_2), 1.55 (m, 4H, CH), 0.92 (d, J = 6.0 Hz, 24H, $CH(CH_3)_2$)

Compound **19**
^{1}H NMR (400 MHz, $CDCl_3$) δ 6.78 (dd, J = 9 Hz, 16H, ArH), 6.43 (s, 2H, ArH), 6.22 (s, 2H, ArH), 6.22 (s, 2H, ArH), 6.07 (s, 2H, ArH), 5.79 (s, 2H, ArH), 5.73 (s, 4H, ArCH), 3.66 (s, 12H, OCH_3), 3.52 (s, 12H, OCH_3), 2.33 (s, 12H, $OCCH_3$)