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Supporting Information

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$^1$H NMR Spectrum (500 MHz, CDCl$_3$, 298 K) of compound 8
$^{13}$C NMR Spectrum (126 MHz, CDCl$_3$, 298 K) of compound 8
Mass spectrum (HR-MALDI-ICR) of compound 8
$^1$H NMR Spectrum (500 MHz, CDCl$_3$/CD$_2$Cl$_2$, 298 K) of compound 3b.
$^{13}$C NMR Spectrum (126 MHz, CDCl$_3$, 298 K) of compound 3b.
Mass spectrum (HR-MALDI-ICR) of compound 3b.
Stacked $^1$H NMR spectra of [2]rotaxane 1a·PF$_6$ with addition of 100 equivalents of D$_2$O according to time.
Stacked $^1$H NMR spectra of [2]rotaxane 1a·PF$_6$ with addition of 200 equivalents of D$_2$O according time.
Stacked $^1$H NMR spectra of [2]rotaxane 1a\textbf{-PF}_6 with addition of 500 equivalents of D$_2$O according time.
$^{1}$H NMR Spectrum (500 MHz, CD$_3$CN, 298 K) of [2]rotaxane 1b·PF$_6$
$^1$H NMR Spectra (500 MHz, CD$_3$CN, 298 K) of [2]rotaxane $1b$·PF$_6$ with 100 equivalents of D$_2$O after 15 min (upper) and 4 h (lower).
$^1$H NMR Spectra (500 MHz, CD$_3$CN, 298 K) of [2]rotaxane 1b·PF$_6$ with 250 equivalents of D$_2$O after 10 min (upper) and 4 h (lower).
$^1$H NMR Spectra (500 MHz, CD$_3$CN, 298 K) of [2]rotaxane 1b·PF$_6$ with 500 equivalents of D$_2$O after 10 min (upper) and 6 h (lower).