Electronic Supplementary Information

Capillary Electrophoretic Separation of *cis*/*trans* Isomers of Bis(*o*-diiminobenzoquinonato)platinum(II) Complexes Using β-Cyclodextrins as the Selector

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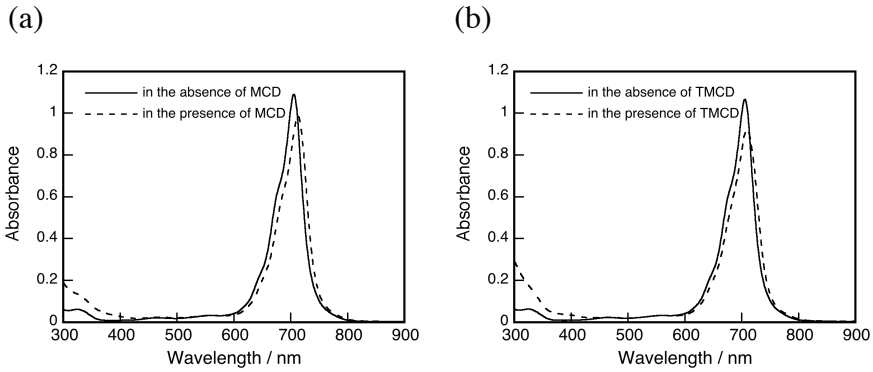

Figure S1 Absorption spectra of Pt^{II}-DBS complex in the absence and presence of (a) MCD and (b) TMCD. [Pt^{II}-DBS] = 1.0×10^{-5} M, [MCD or TMCD] = 0 or 10 mM, [$NaClO_4$] = 0.1 M, pH = 12.5 adjusted with NaOH aq.

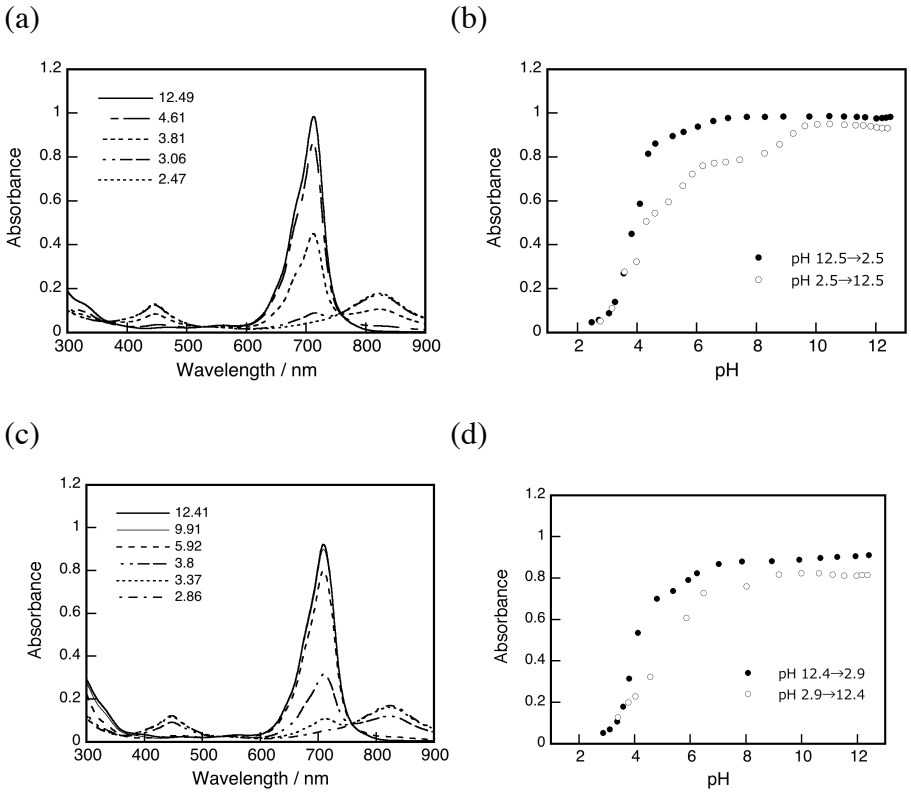

Figure S2 Dependence of (a, c) absorption spectra of Pt^{II}-DBS and (b, d) absorbance at 706 nm on pH. (a, b) MCD, (c, d) TMCD. [Pt^{II}-DBS] = 1.0×10^{-5} M, [CD] = 1.0×10^{-3} M, [$NaClO_4$] = 0.1 M.

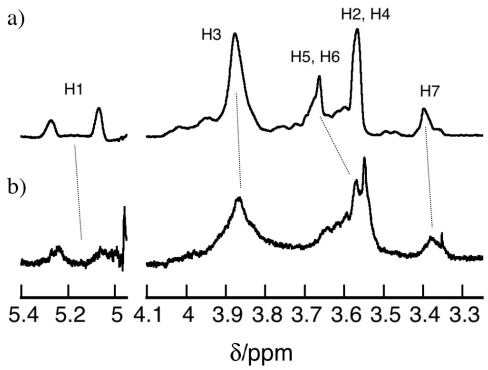

Figure S3 ^{1}H NMR spectra of MCD in the absence and presence of Pt^{II}-DBS in D_2O. (a) [MCD] = 5.0 mM, pD = 12.5 adjusted with NaOD. (b) [MCD] = 2.5 mM, [Pt^{II}-DBS] = 2.5 mM, pD = 12.5 adjusted with NaOD.

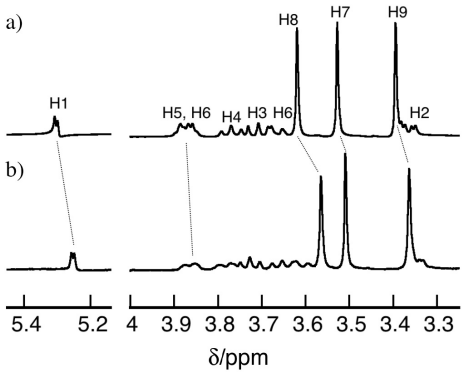

Figure S4. ^{1}H NMR spectra of TMCD in the absence and presence of Pt^{II}-DBS in D_2O. (a) [TMCD] = 5.0 mM, pD = 12.5 adjusted with NaOD. (b) [TMCD] = 2.5 mM, [Pt^{II}-DBS] = 2.5 mM, pD = 12.5 adjusted with NaOD.

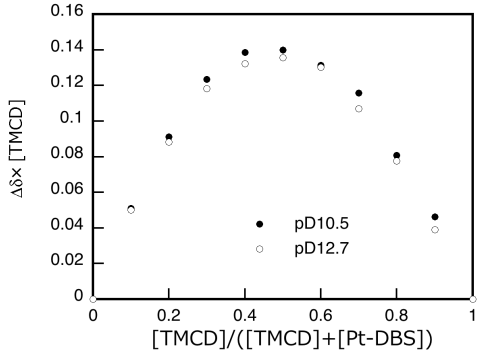

Figure S5 Job's plot for TMCD–Pt^{II}-DBS systems in D_2O at different pD. [TMCD] + [Pt^{II}-DBS] = 5.0 mM, pD = 10.5 or 12.7.

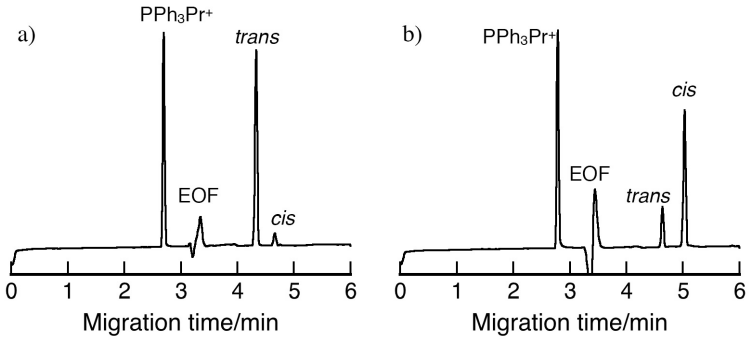

Figure S6 Electropherograms of (a) methanolic solution of single crystals of *trans*-Pt^{II}-DBS and (b) mother liquor for preparation of the single crystals. Capillary: i.d. = 50 μm, o.d. = 375 μm, L = 32.5 cm, l = 24.0 cm. Electrophoretic buffer: [$Na_2B_4O_7$] = 20 mM, [MCD] = 50 mM, pH 10.0. Electrophoresis: i = 30 μA, detection wavelength: 220 nm, T = 298 K.

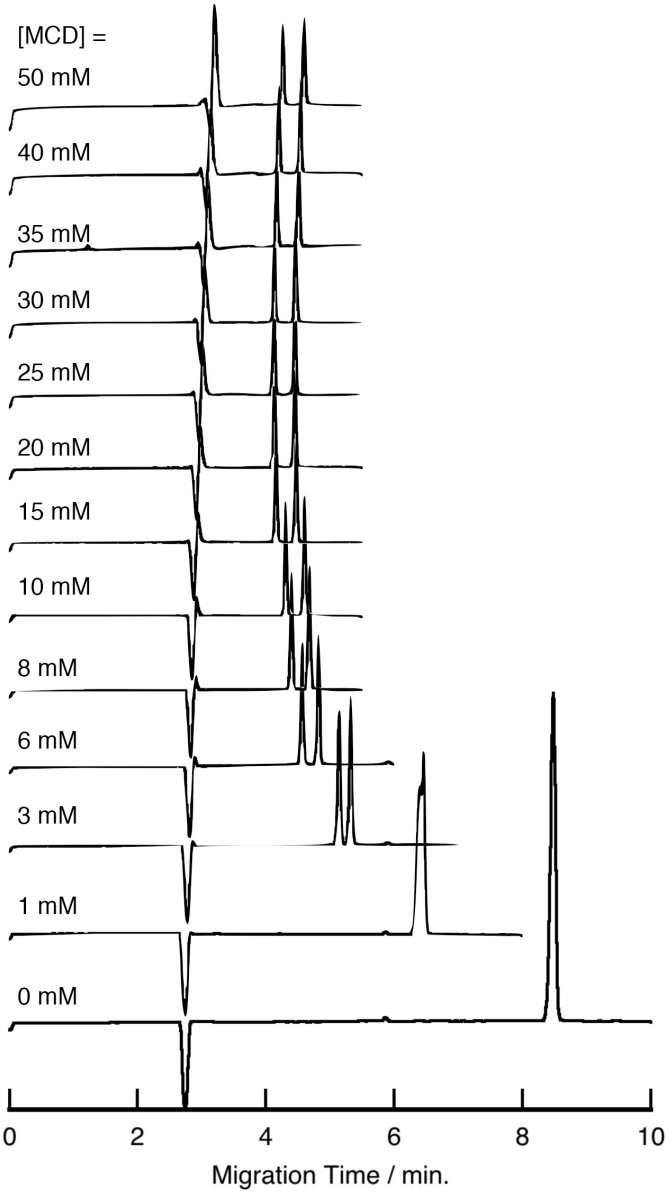

Figure S7 Electropherograms of Pt^{II}-DBS upon increasing MCD concentration in the electrophoretic buffer. Capillary: i.d. = 50 μm, o.d. = 375 μm, L = 32.5 cm, l = 24.0 cm. Electrophoretic buffer: [$Na_2B_4O_7$] = 20 mM, [MCD] = (a) 0, (b) 2.0, (c) 6.0, (d) 15, (e) 30, and (f) 50 mM, pH 10.0. Electrophoresis: V = (a) 9.21 – (f) 10.25 kV, i = 30 μA, detection wavelength: 220 nm. T = 298 K

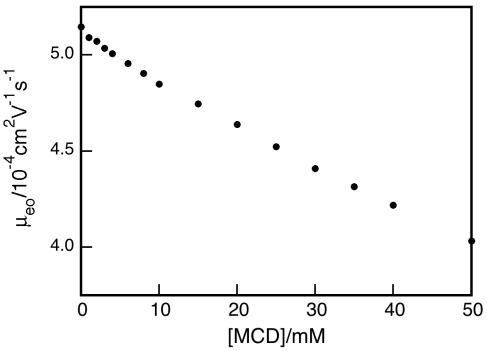

Figure S8 Dependence of electroosmotic mobility (μ_{eo}) on MCD concentration in the electrophoretic buffer. The conditions are the same as given in the caption of Figure 6.

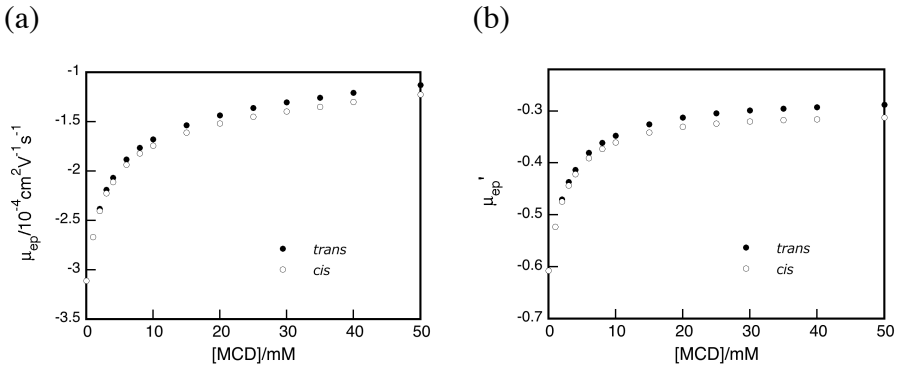

Figure S9 Dependence of electrophoretic mobilities of *cis*/*trans*-Pt^{II}-DBA on the MCD concentration in the buffer. (a) Electrophoretic mobility (μ_{ep}), (b) reduced electrophoretic mobility (μ_{ep}'). Capillary: i.d. = 50 μm, o.d. = 375 μm, L = 32.5 cm, l = 24.0 cm. Electrophoretic buffer: [$Na_2B_4O_7$] = 20 mM, [MCD] = 0 – 50 mM, pH 10.0. Electrophoresis: V = 9.18 – 10.05 kV, i = 30 μA, T = 298 K

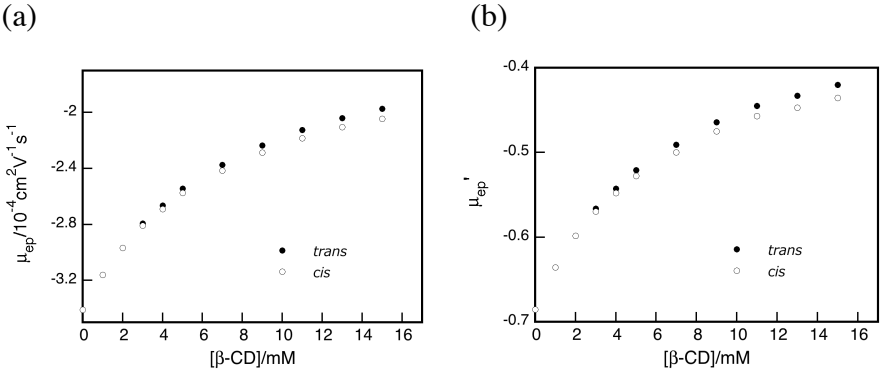

Figure S10 Dependence of electrophoretic mobilities of *cis*/*trans*-Pt^{II}-DBS on the β-CD concentration in the buffer. (a) Electrophoretic mobility (μ_{ep}), (b) reduced electrophoretic mobility (μ_{ep}'). Capillary: i.d. = 50 μm, o.d. = 375 μm, L = 32.5 cm, l = 24.0 cm. Electrophoretic buffer: [$Na_2B_4O_7$] = 20 mM, [β-CD] = 0 – 15 mM, pH 10.0. Electrophoresis: V = 9.00 – 9.10 kV, i = 30 μA, T = 298 K

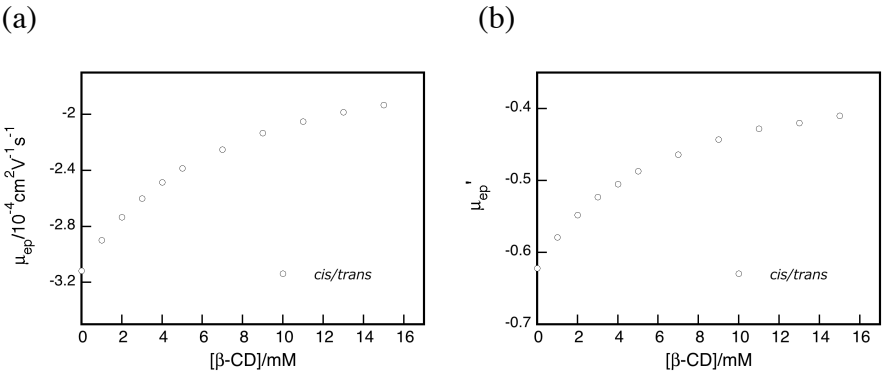

Figure S11 Dependence of electrophoretic mobilities of *cis*/*trans*-Pt^{II}-DBA on the β-CD concentration in the buffer. (a) Electrophoretic mobility (μ_{ep}), (b) reduced electrophoretic mobility (μ_{ep}'). Capillary: i.d. = 50 μm, o.d. = 375 μm, L = 32.5 cm, l = 24.0 cm. Electrophoretic buffer: [$Na_2B_4O_7$] = 20 mM, [β-CD] = 0 – 15 mM, pH 10.0. Electrophoresis: V = 9.01 – 9.07 kV, i = 30 μA, T = 298 K