Supplementary Material

Synthesis and Characterization of New Reinforced Pentaaza Macrobicyclic and Bis(macrobicyclic) Copper(II) Complexes

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Figure S1. FAB MS spectrum of $[Cu(3a)](ClO_4)_2$ ·H₂O (417.2 for $[Cu(3a) + ClO_4]^+$, 318.3 for $[Cu(3a) - H]^+$.



Figure S2. FAB MS spectrum of $[Cu(3b)](ClO_4)_2$ (445.3 for $[Cu(3b) + ClO_4]^+$, 346.3 for $[Cu(3b) - H]^+$).



Figure S3. FAB MS spectrum of $[Cu(3c)](ClO_4)_2$ (493.3 for $[Cu(3c) + ClO_4]^+$, 394.3 for $[Cu(3c) - H]^+$).



Figure S4. FAB MS spectrum of $[Cu_2(4)](ClO_4)_4$ ·2H₂O (933.0 for $[Cu_2(4) + 3ClO_4]^+$, 834.1 for $[Cu_2(4) - H + 2ClO_4]^+$).



Figure S5. FAB MS spectrum of $[Cu_2(5)](ClO_4)_4$ ·H₂O (1073.4 for $[Cu_2(5) + 3ClO_4]^+$, 972.6 for $[Cu_2(5) - H + 2ClO_4]^+$).



Figure S6. Plot of $\ln(A_t - A)$ vs. time (h) for the acid decomposition of $[Cu(3a)]^{2+}$ (a), $[Cu(3b)]^{2+}$ (b), $[Cu(3c)]^{2+}$ (c), $[Cu_2(4)]^{4+}$ (d), and $[Cu_2(H_25)]^{6+}$ (e) in 0.3 M HClO₄ water-acetonitrile (1:1) solution at 20 °C; $[Complex] = 2.0 \times 10^{-3}$ M. A_t and A are the absorbance of the solution at *ca*. 550 nm after some time and after completing the reaction, respectively.

Notes