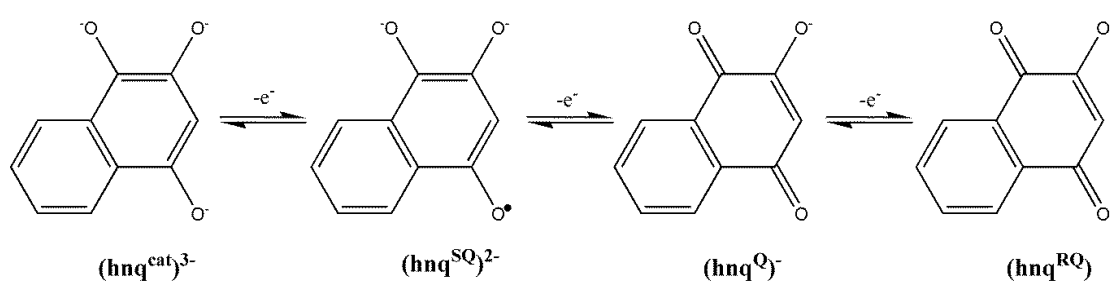


Supporting Information to accompany ...

Dinuclear cobalt(II) and cobalt(III) complexes of bis-bidentate naphthoquinone ligands†

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Scheme S1. Different redox forms of the deprotonated hmqH ligand: diamagnetic catecholate ($\text{hnq}^{\text{cat}3-}$), radical semiquinonate ($\text{hnq}^{\text{SQ}2-}$), diamagnetic quinonate ($\text{hnq}^{\text{Q}-}$), and radical quinonate (hnq^{RQ}).



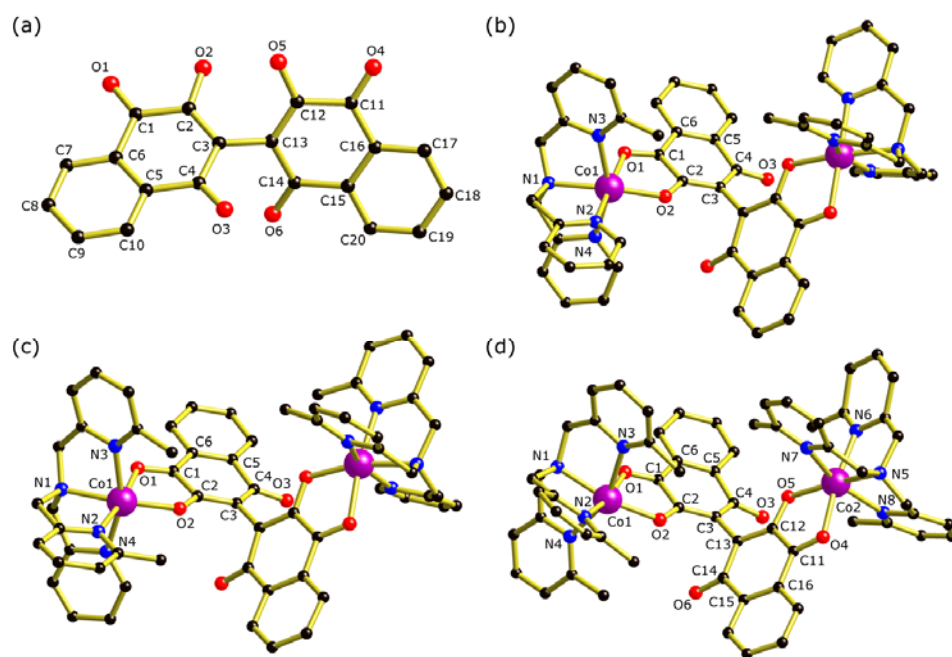


Figure S1. Structural representations of (a) bhnqH^- in $(\text{pyH})(\text{bhnqH})\cdot 2\text{H}_2\text{O}$ and complexes (b) **2** in $2\mathbf{a}\cdot 2\text{MeCN}\cdot 2\text{Et}_2\text{O}$, (c) **3** in $3\mathbf{a}\cdot 2\text{MeCN}\cdot \text{H}_2\text{O}$ and (d) **4** in $4\mathbf{a}\cdot 2\text{MeCN}\cdot 0.5\text{Et}_2\text{O}$.

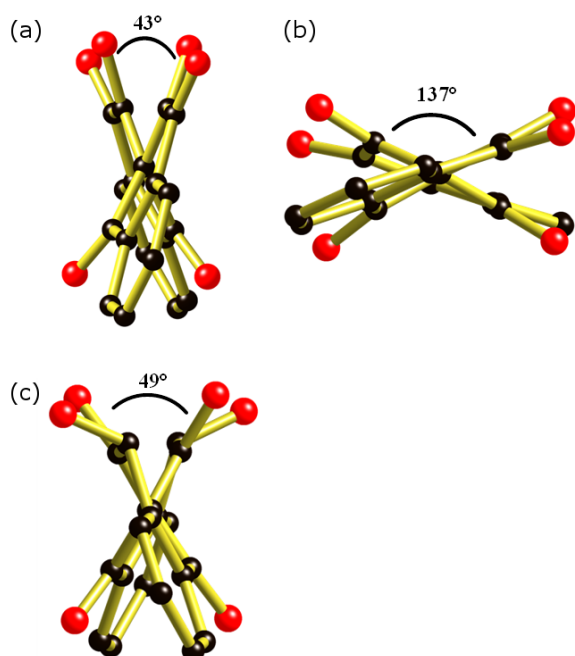


Figure S2. Dihedral angles of (a) bhnqH^- in $(\text{pyH})(\text{bhnqH})\cdot 2\text{H}_2\text{O}$, (b) bhnq^{2-} in $1\mathbf{b}\cdot 2\text{CH}_2\text{Cl}_2\cdot 2\text{MeOH}$ and (c) bhnq^{2-} in $6\mathbf{a}\cdot 3\text{MeOH}\cdot 2\text{H}_2\text{O}$

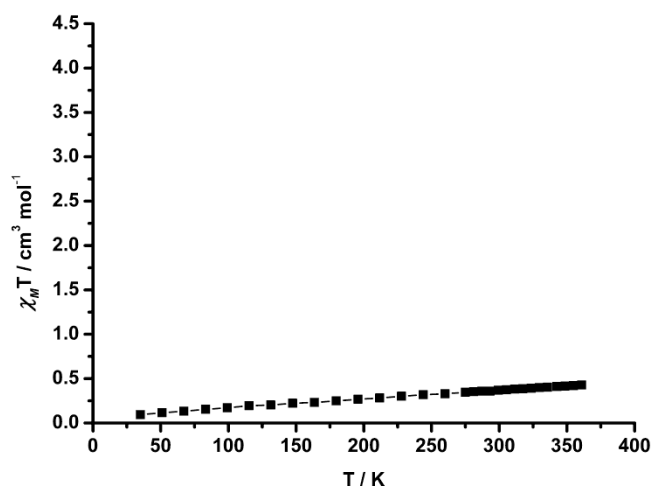


Figure S3. Magnetic susceptibility data measured for compounds **5b**·Me₂CO.

Table S1. Electronic absorption spectral data for acetonitrile solutions of bhnq²⁻ and compounds **1a**, **2a**, **3a**, **4a** and **5b** at ambient temperature.

Compound	λ_{\max} / nm ($\epsilon \times 10^3 \text{ M}^{-1} \text{ cm}^{-1}$)
bhnq ²⁻	265 (27), 299 (sh, 1.8), 481 (4.9)
1a	258 (54), 303 (sh, 31), 348 (sh, 7.9), 498 (6.0)
2a	268 (44), 305 (sh, 21), 348 (sh, 6.3), 492 (5.1)
3a	271 (27), 307 (sh, 14), 350 (sh, 3.4), 520 (3.8)
4a	268 (28), 308 (sh, 14), 352 (sh, 4.6), 537 (4.2)
5b	246 (60), 280 (40), 325 (sh, 18), 378 (12), 614 (6.1)