

Perspective views of the Re(IV) polyhedron in compounds **1**, **2**, and **3** (Figure S1), Packing of **1** along *y* axis (Figures S2 and S4), and polyhedron around M(II) in **2** and **3** (Figure S3).

Figure S1. View of the coordination around Re(IV) in the N(2)-Re-Br(1) direction for compounds **1** (a), **2** (b), and **3** (c). Code color: Re, purple; Br, green; O, red; N, blue; C, grey.

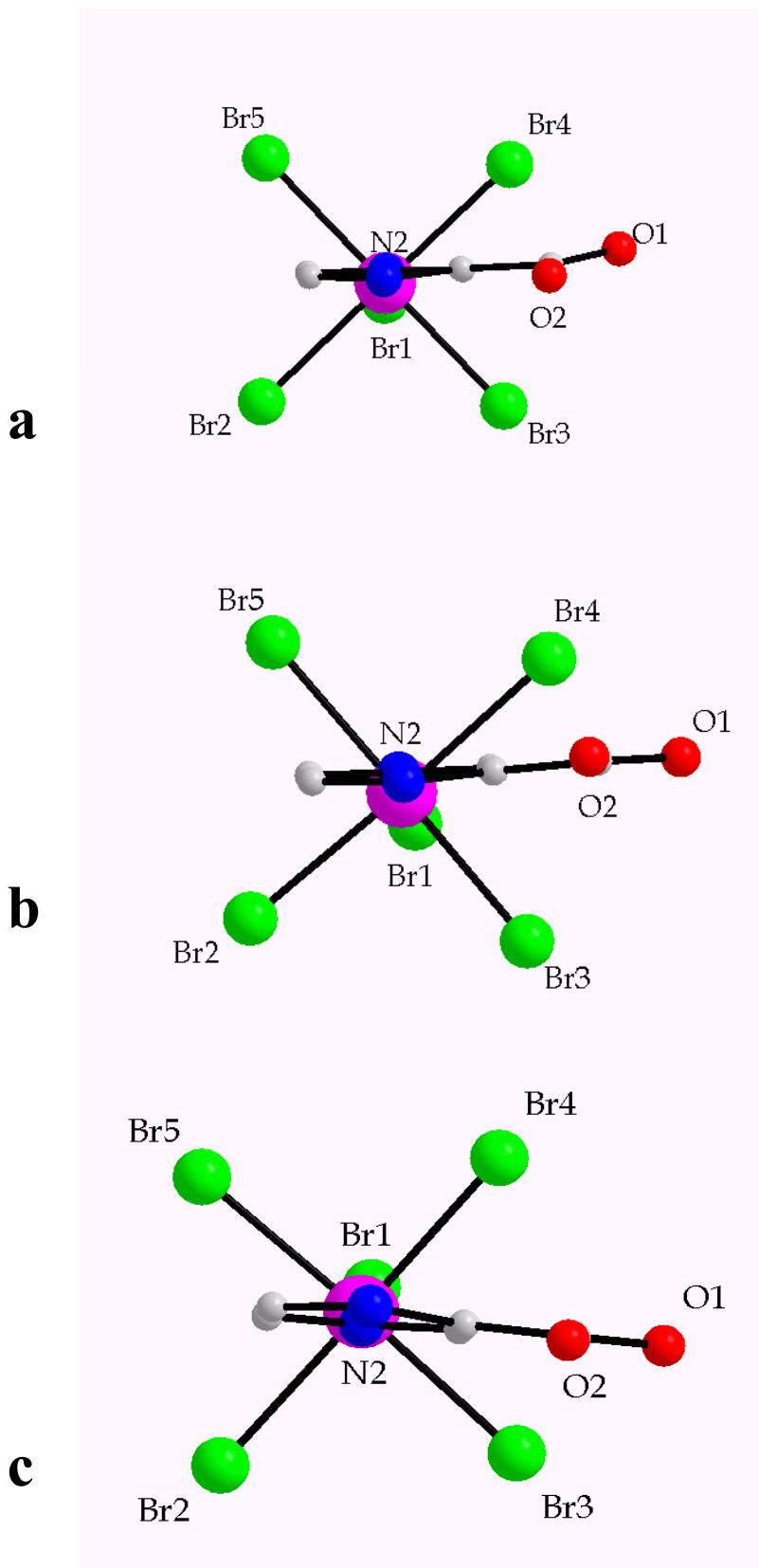


Figure S2. Ball and stick diagram of compound **1** along y axis. Color code: rhenium, purple; bromine, green; oxygen, red; nitrogen, blue; carbon, grey.

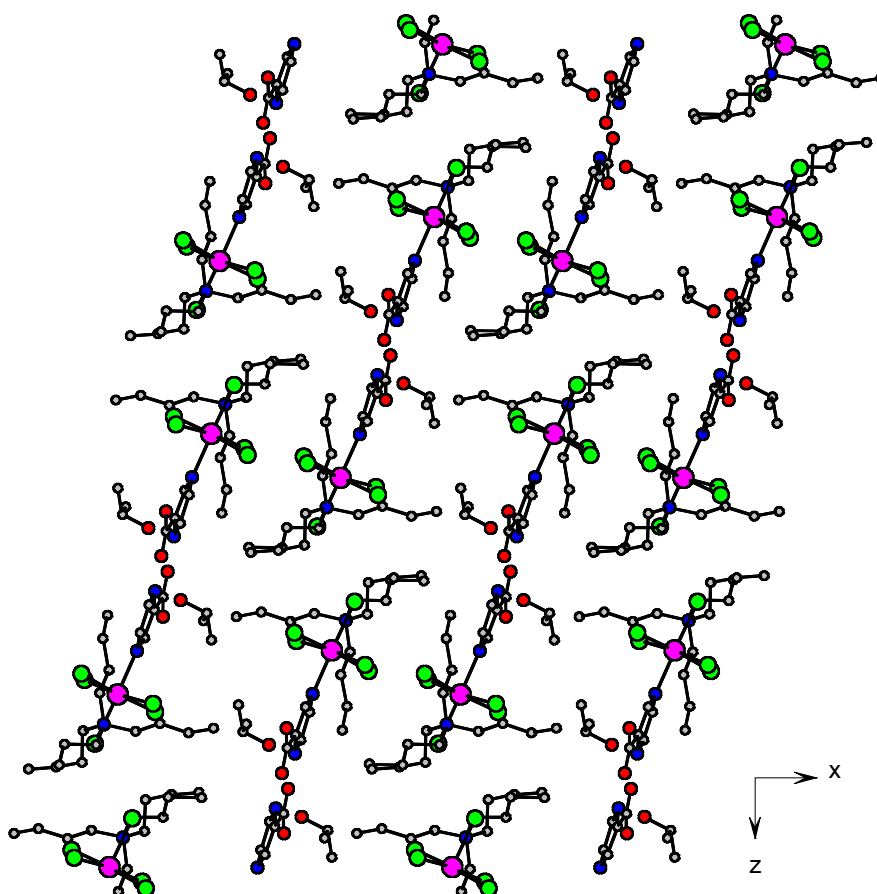


Figure S3. Perspective drawing of the M(II) polyhedron in compounds **2** (a) and **3** (b).
Code color: Re, purple; Br, green; O, red; N, blue; C, grey; Co, orange; Ni, dark green.

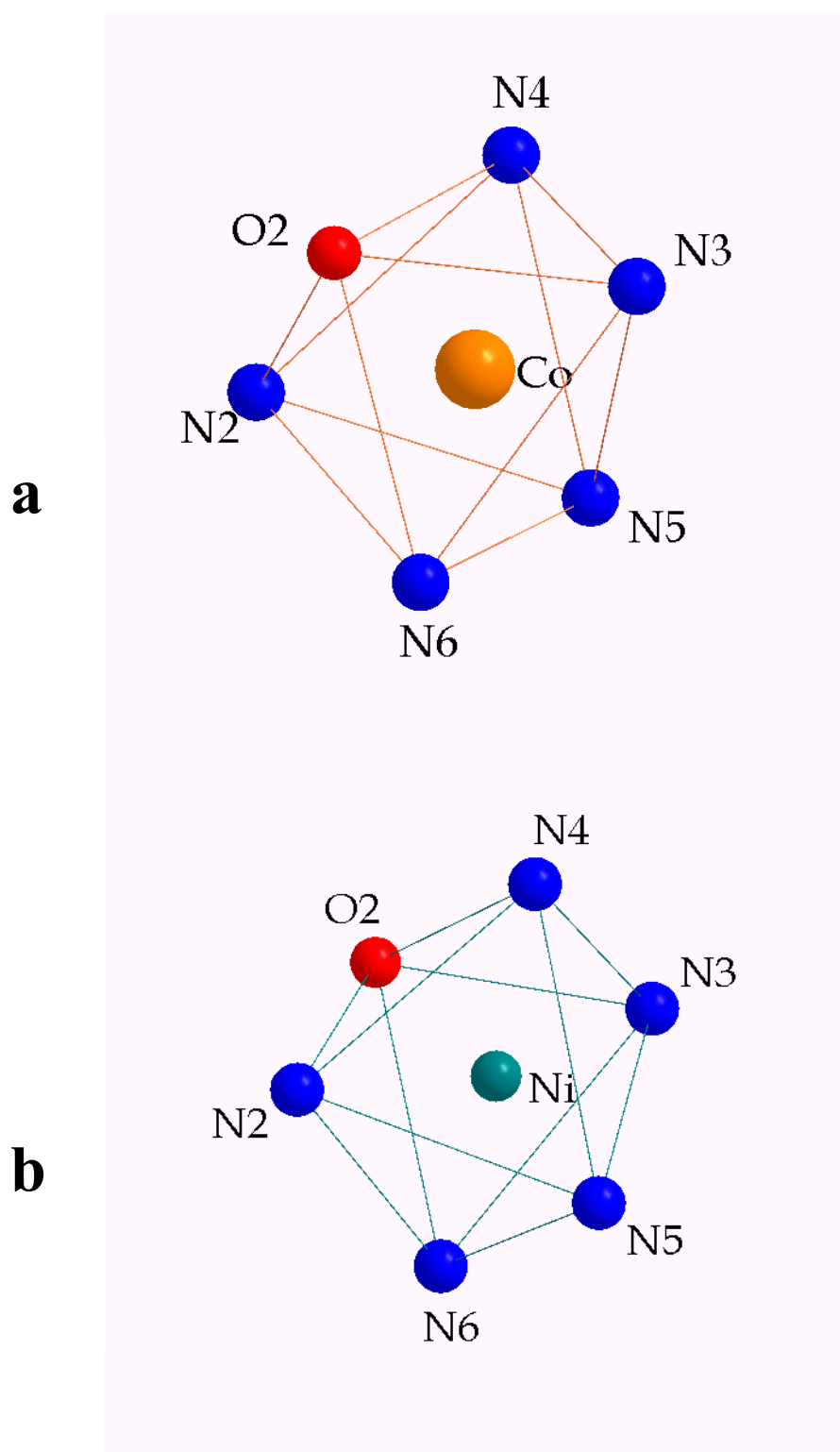


Figure S4. Perspective drawing of 1 along y direction showing the zigzag chains and shortest distances Br \cdots Br. Code color: Re, purple; Br, green; O, red; N, blue; C, grey for

