

## Supporting Information

### Chirality Effects on Core-periphery Connection in a Star-burst Type Tetranuclear Ru(III) Complex: Application of Vibrational Circular Dichroism Spectroscopy

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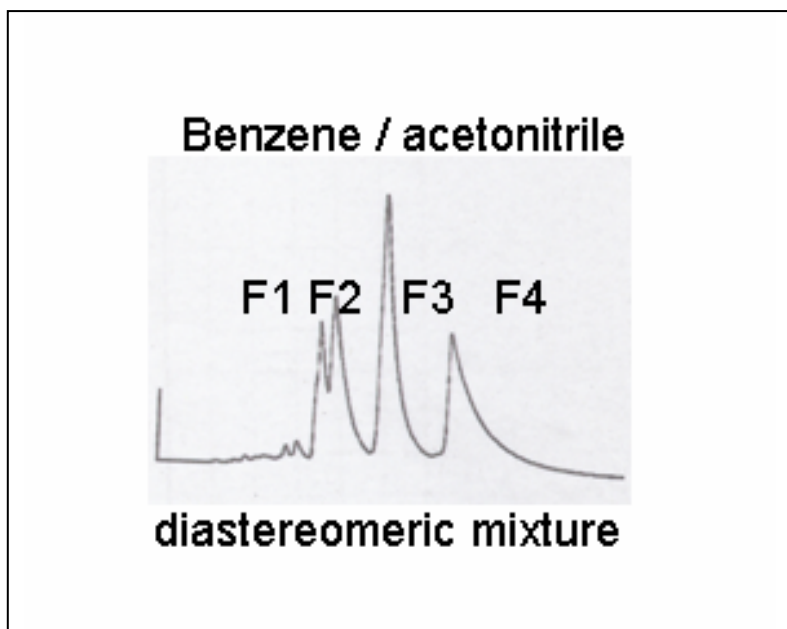


Figure S1. The HPLC chromatogram when a diastereomeric mixture of tetranuclear Ru(III) complexes was eluted on a silica gel column. The eluting solvent was 1:1 (v/v) acetonitrile/benzene. Four main peaks were separated. They are denoted by F1, F2, F3 and F4, respectively.

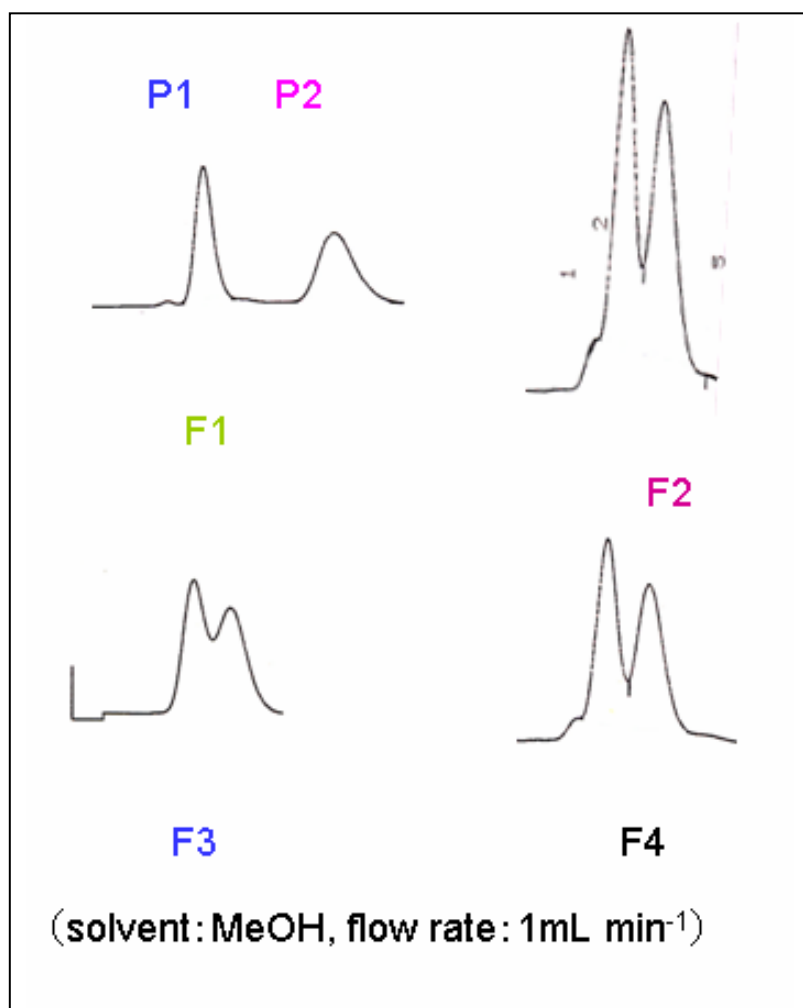


Figure S2. The HPLC chromatogram when each diastereomer of tetranuclear Ru(III) complex was eluted on a chiral column. The eluting solvent was 1:1 (v/v) methanol/chloroform. In all cases, two main peaks were separated. They are denoted by P1 and P2, respectively. The used column was a column packed with an ion-exchange adduct of a clay and chiral tris(phenanthroline)ruthenium(II) complexes.

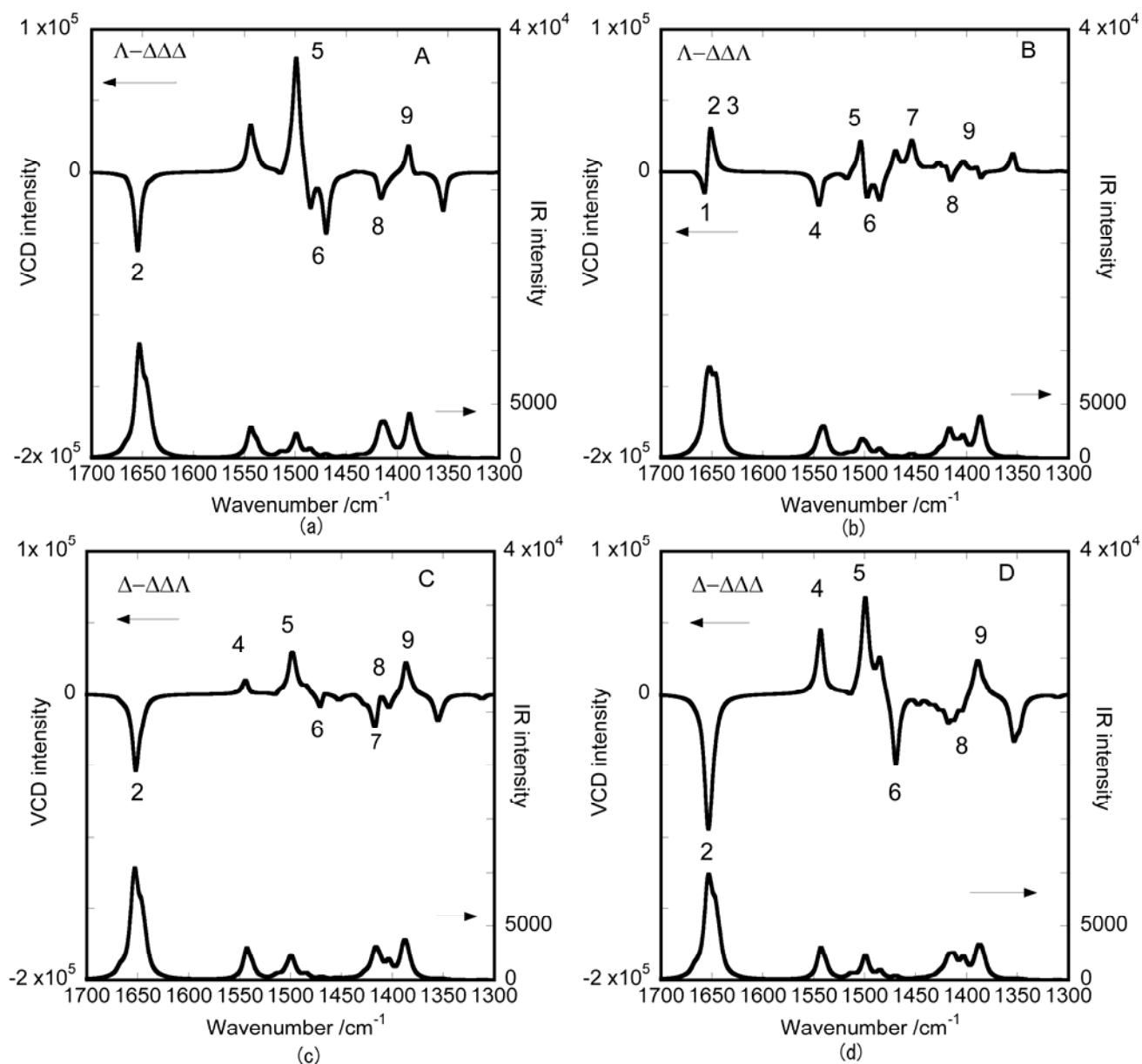


Figure S3. The calculated IR and VCD spectra of the enantiomers of tetranuclear Ru(III) complexes. The enantiomers were the P2 fractions of A, B, C and D-types as shown in Figure S2. For the calculation, all CH<sub>3</sub> groups were replaced with H atoms for the sake of reducing calculation time.

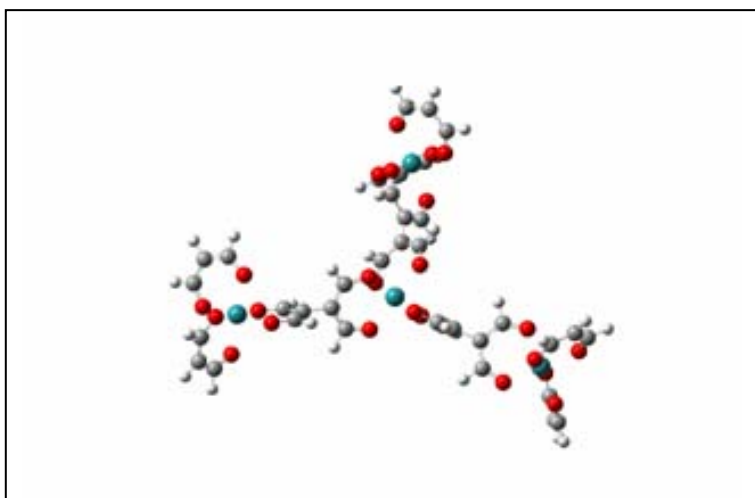


Figure S4. The optimized calculated structure of B-type ( $\Lambda$ - $\Delta\Delta\Lambda$ ) tetranuclear Ru(III) complex