

## Electronic Supplementary Information

### Structure-chiroptical property relationship of kinetically labile camphor-derivative $\beta$ -diketone Yb(III) complexes: The adducts coexist as diastereomers or not?

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**Figure S1.** The coordination polyhedra of complexes **I** and **II**.

**Figure S2.** The observed and simulated X-ray diffraction patterns of complex **I**.

**Figure S3.** The observed and simulated X-ray diffraction patterns of complex **III**.

**Figure S4.** The bulk sample solid-state CD spectra of complexes **I** and **II**.

**Figure S5.** Solid-state electronic absorption spectrum of complex **I**.

**Figure S6.** Solid-state electronic absorption spectrum of complex **III**.

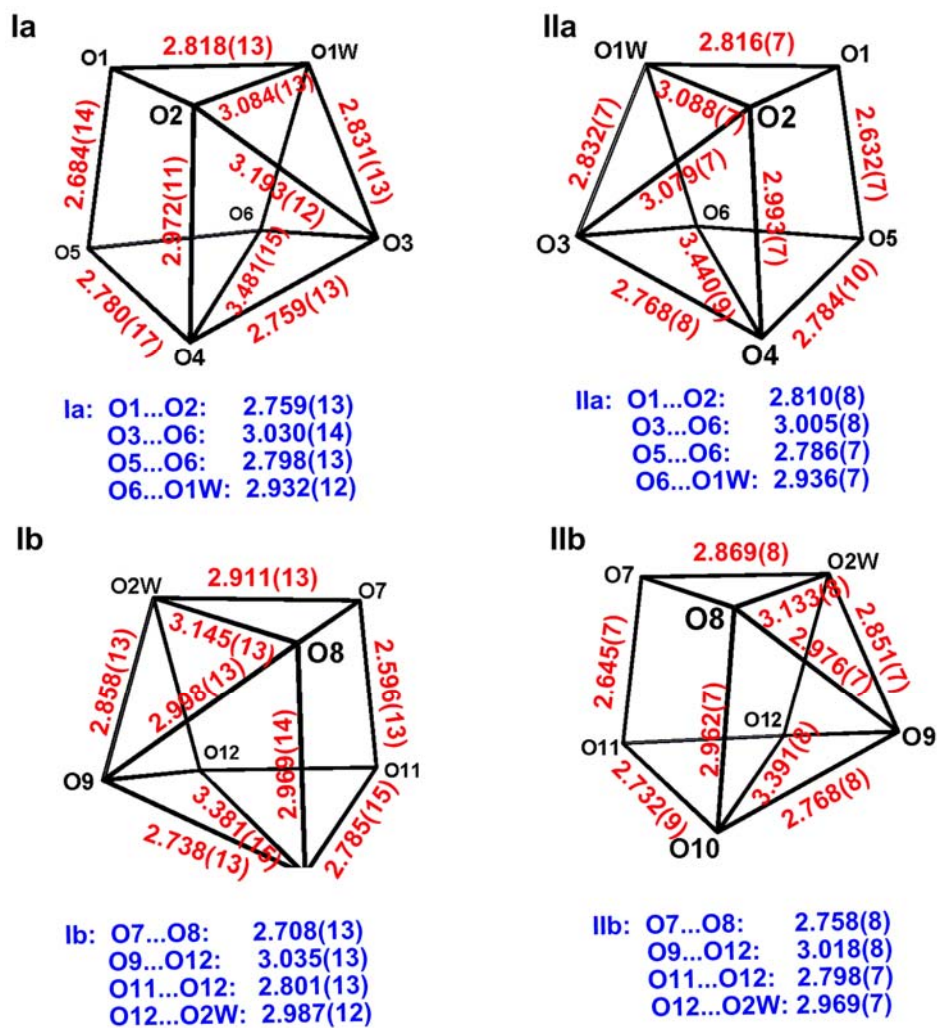
**Figure S7.** Solution electronic absorption spectrum of complex **I**.

**Figure S8.** Solution electronic absorption spectrum of complex **III**.

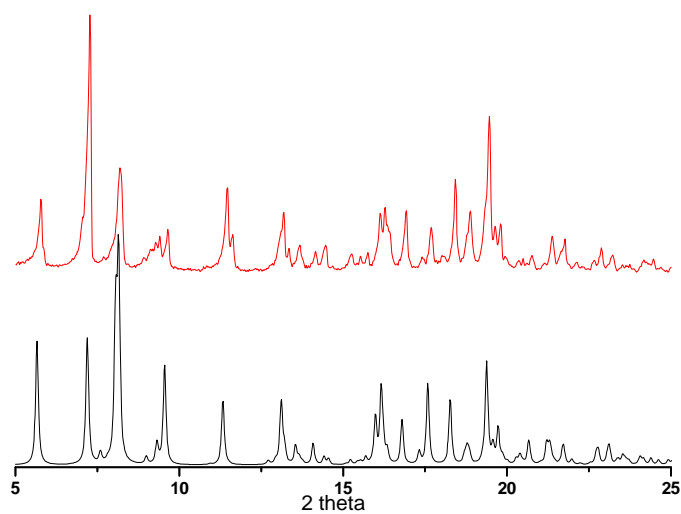
**Figure S9.** ORTEP structures of complexes **I** and **II**.

**Figure S10.** ORTEP structures of complexes **III** and **IV**.

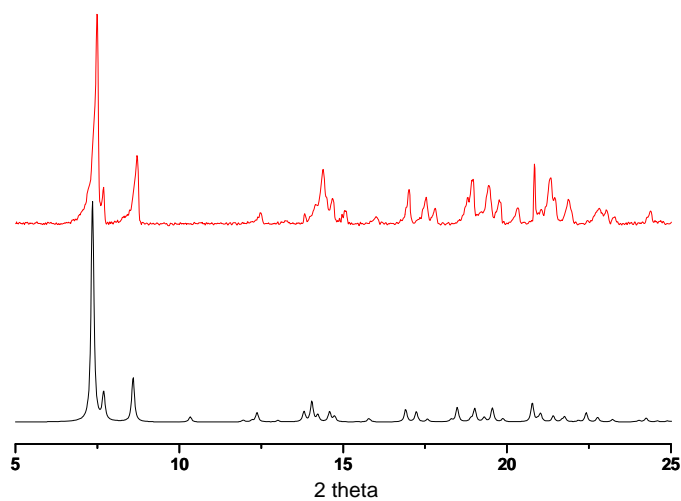
**Figure S1.** The coordination polyhedra of complexes I and II.



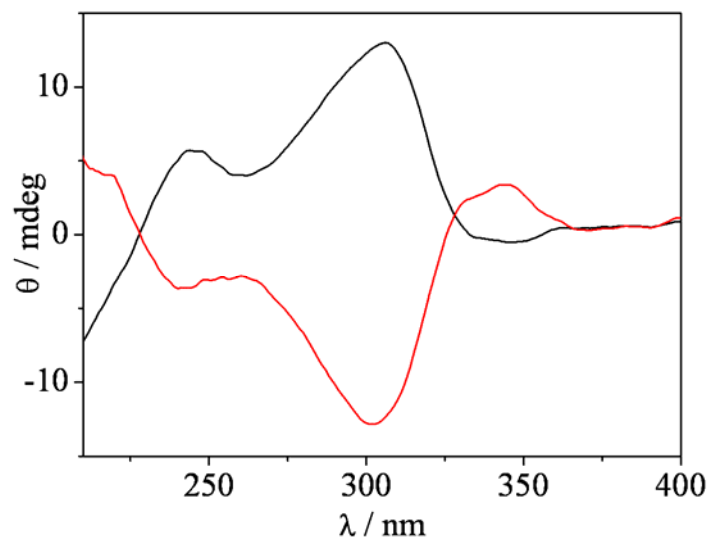
**Figure S2.** The observed (red) and simulated (black) X-ray powder diffraction spectra of complex **I**.



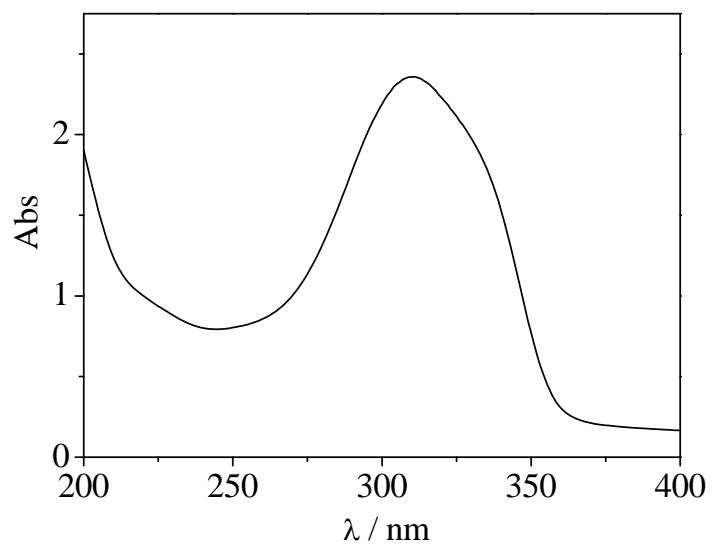
**Figure S3.** The observed (red) and simulated (black) X-ray powder diffraction spectra of complex **III**.



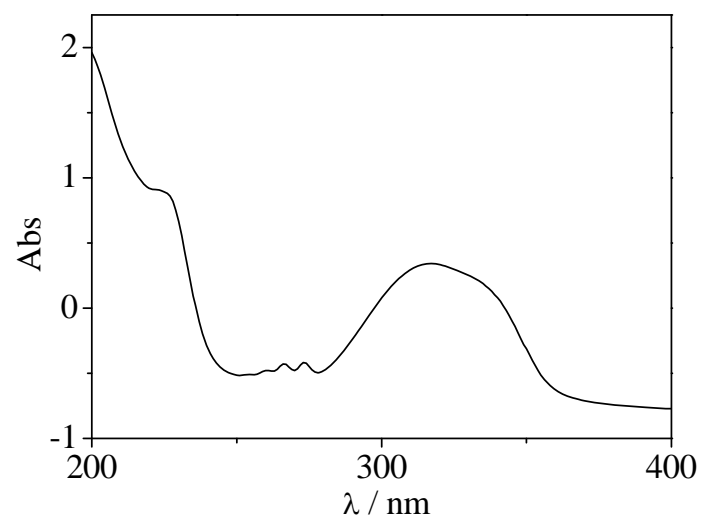
**Figure S4.** Solid-state CD spectra of the bulk samples **I** and **II** (black: **I**; red: **II**).



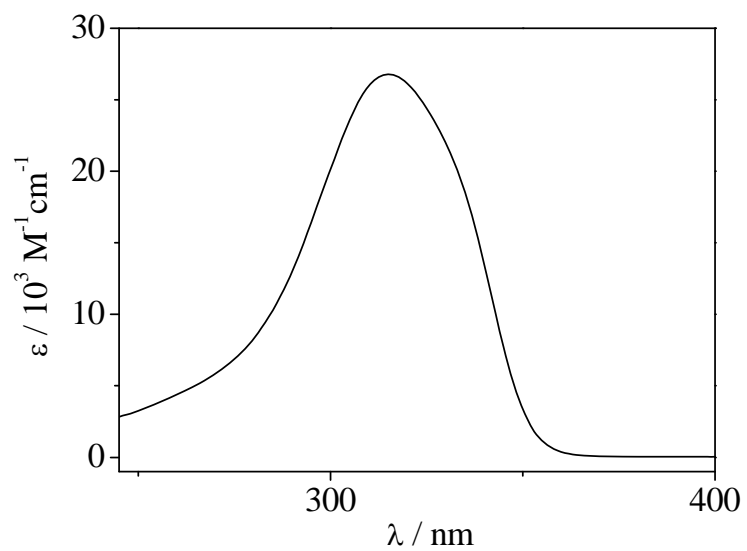
**Figure S5.** Solid-state absorption spectrum of complex **I**.



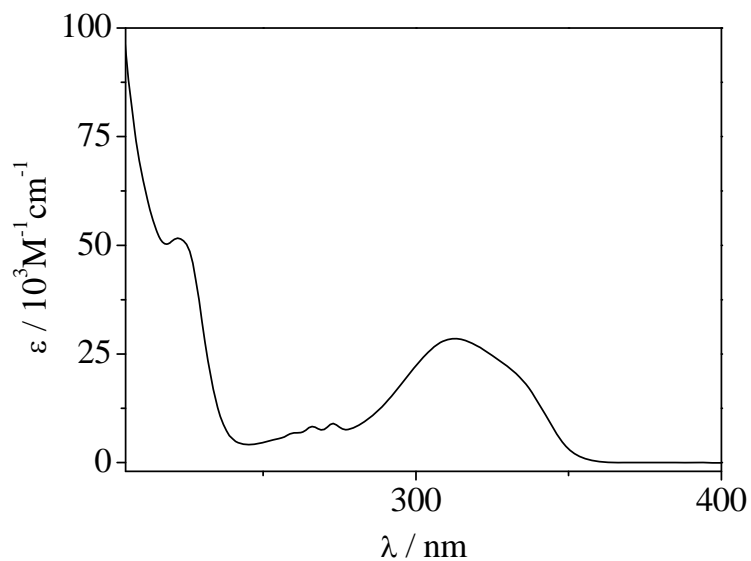
**Figure S6.** Solid-state absorption spectrum of complex **III**.



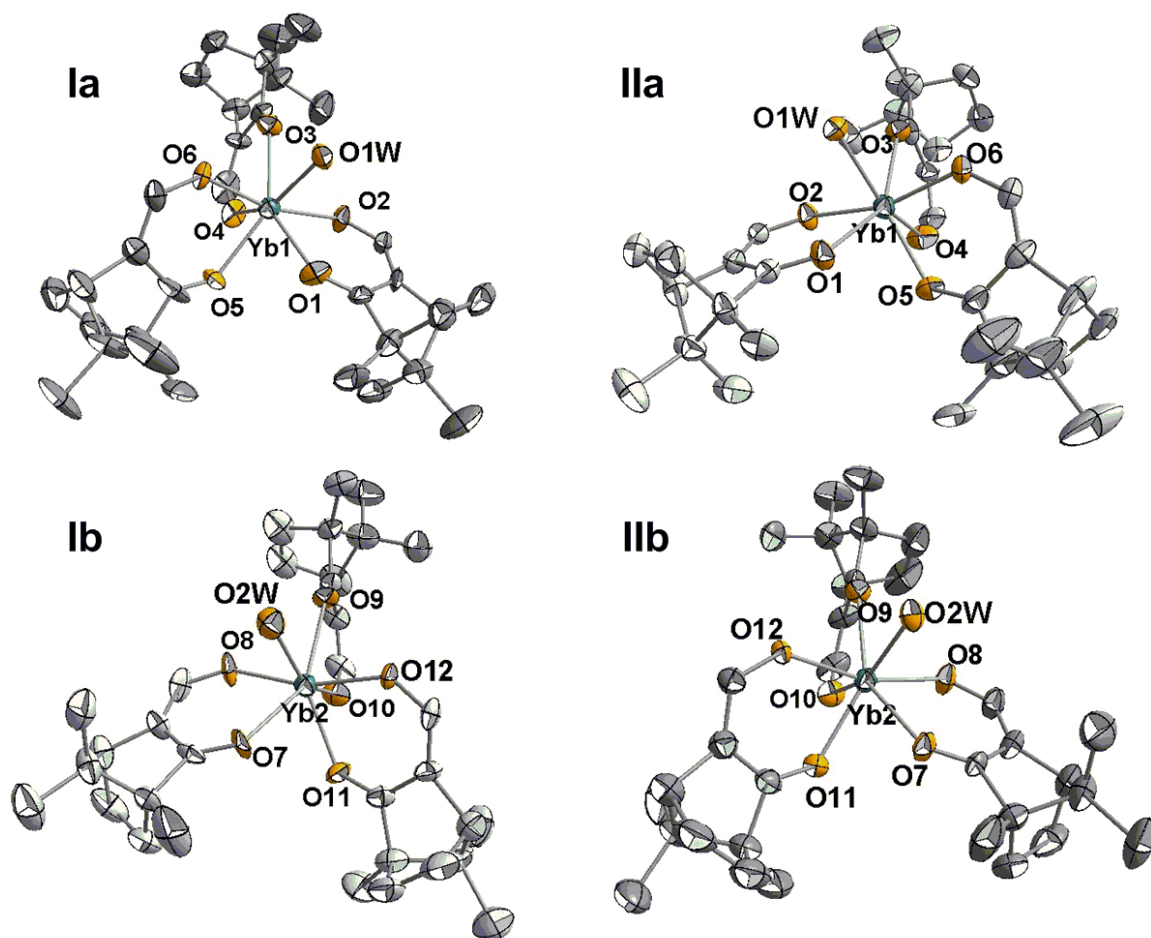
**Figure S7.** Solution absorption spectrum of complex **I**.



**Figure S8.** Solution absorption spectrum of complex **III**.



**Figure S9.** ORTEP structure of complexes **I** and **II** ( $-\text{C}_3\text{F}_7$  groups are omitted for clarity). Thermal ellipsoids are shown at the 30% probability level.



**Figure S10.** ORTEP structure of complexes **III** (left) and **IV** (right) ( $-\text{C}_3\text{F}_7$  groups are omitted for clarity). Thermal ellipsoids are shown at the 30% probability level.

