



*NMR titration of orthoformate cryptand with cesium*

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**Field strength:** 500 MHz

### Why is this your favorite spectrum?

Performing NMR titrations can be a tedious task. Thus I was very excited during this particular NMR experiment: Unexpectedly, the stepwise addition of cesium cations to an orthoester cryptand did not only lead to supramolecular binding of the cation to the host (as evidenced by the shift of the protons a and b), but also induced a slow inversion of the cryptand (as evidenced by disappearance of proton a). The data showed that an exo binding of the cation takes place before the cryptand is inverted and the cation fits inside the cryptand (see simplified cartoon). In fact, just one NMR titration revealed information on both the system's thermodynamics and kinetics.