# Supplementary Material (ESI) for Chemical Communications


**Electronic Supplementary Information**

Investigation of alkali metal ion binding to the diastereomeric complex between **1** and **2**.

a. Representative mass spectra observed with the addition of various alkali acetate salts.

LiOAC

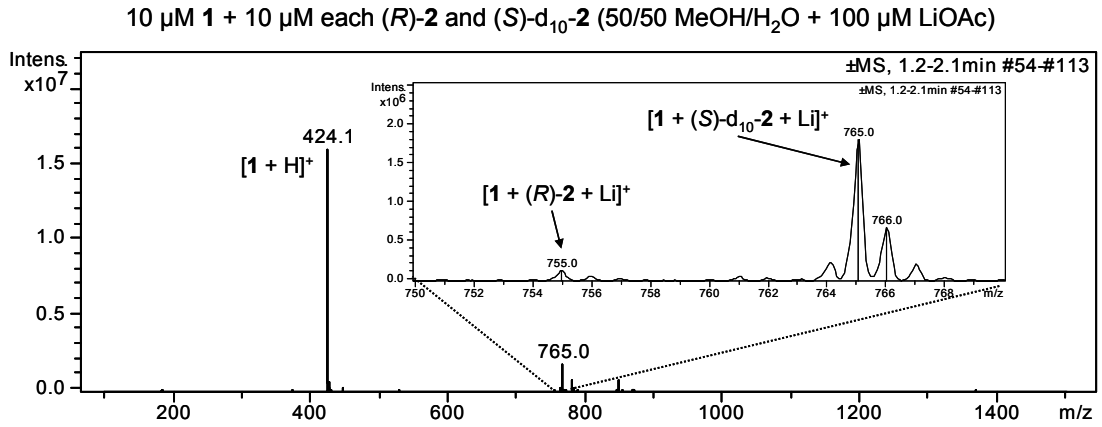


**Figure S1 Mass spectrum for competitive binding determination of enantioselectivity in the presence of a 10-fold excess (100 µM) of LiOAc. Besides those peaks labeled, responses for [1 + (*R*)-2 + Na]$^+$ (m/z = 771), [1 + (*S*)-d$_{10}$-2 + Na]$^+$ (m/z = 781), [(1)$_2$ + H]$^+$ (m/z = 847), and [(1)$_2$ + Li]$^+$ (m/z = 853) are also observed.**

KOAc

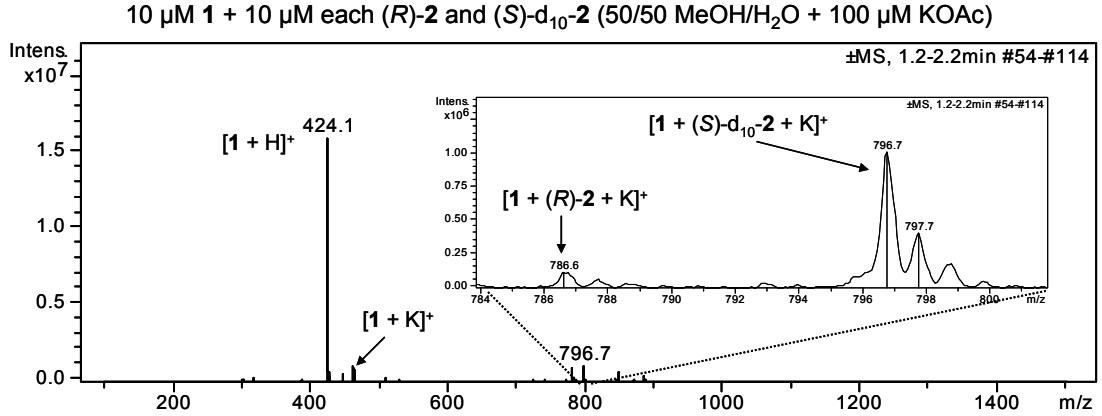


**Figure S2 Mass spectrum for competitive binding determination of enantioselectivity in the presence of a 10-fold excess (100 µM) of KOAc. Besides those peaks labeled, responses for [1 + (*R*)-2 + Na]$^+$ (m/z = 771), [1 + (*S*)-d$_{10}$-2 + Na]$^+$ (m/z = 781), [(1)$_2$ + H]$^+$ (m/z = 847), and [(1)$_2$ + K]$^+$ (m/z = 885) are also observed.**

CsOAc

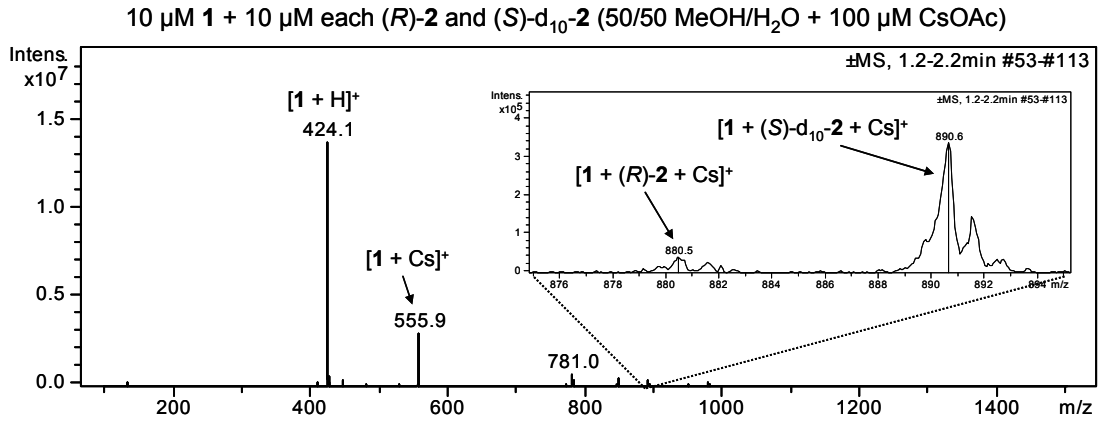


**Figure S3 Mass spectrum for competitive binding determination of enantioselectivity in the presence of a 10-fold excess (100 µM) of CsOAc. Besides those peaks labeled, responses for [1 + (*R*)-2 + Na]$^+$ (m/z = 771), [1 + (*S*)-d$_{10}$-2 + Na]$^+$ (m/z = 781), [(1)$_2$ + H]$^+$ (m/z = 847), and [(1)$_2$ + Cs]$^+$ (m/z = 979) are also observed.**

b. Variation in individual ion abundance responses with molar excess alkali acetate present.

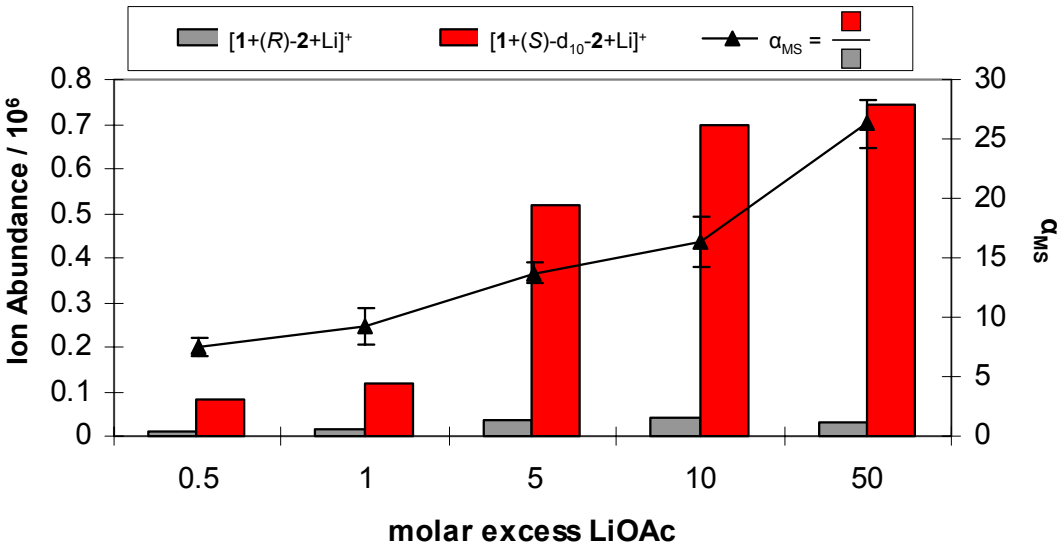


**Figure S4 Assessment of the increase in $\alpha_{MS}$ (enantioselectivity) for 1 binding isotopomeric quasienantiomers of 2 as a function of LiOAc molar excess (N = 3). Analyte components are present at 10 µM each.**

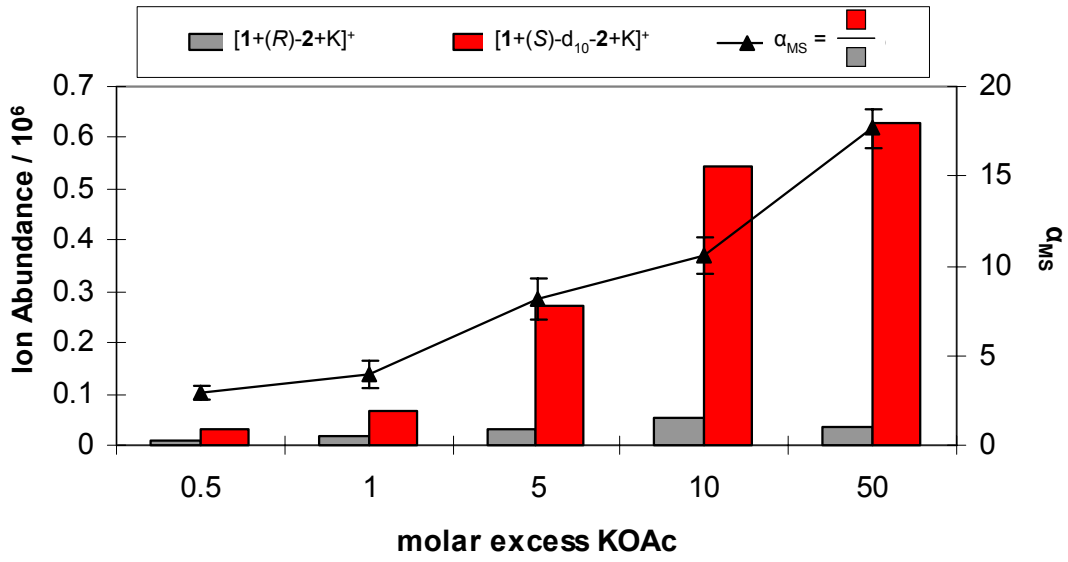


**Figure S5 Assessment of the increase in $\alpha_{MS}$ (enantioselectivity) for 1 binding isotopomeric quasienantiomers of 2 as a function of KOAc molar excess (N = 3). Analyte components are present at 10 µM each.**

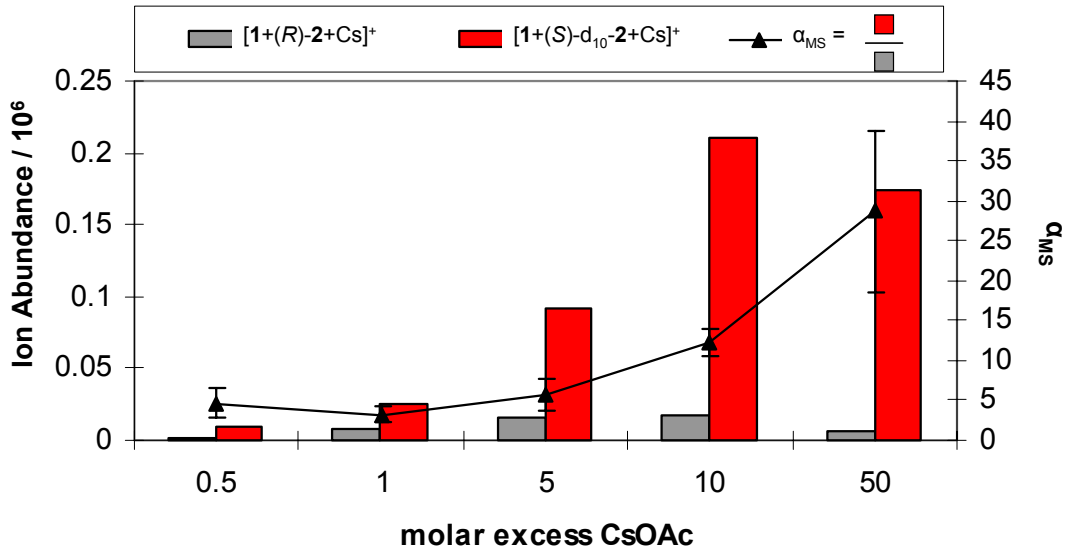


**Figure S6 Assessment of the increase in $\alpha_{MS}$ (enantioselectivity) for 1 binding isotopomeric quasienantiomers of 2 as a function of CsOAc molar excess (N = 3). Analyte components are present at 10 µM each.**