Supporting Information

An intriguing case of *pseudo*-isomorphism between chiral and racemic crystals of rac- and (S)/(R)2-(1,8-naphthalimido)-2-quinuclidin-3-yl, and their reactivity towards I_2 and IBr

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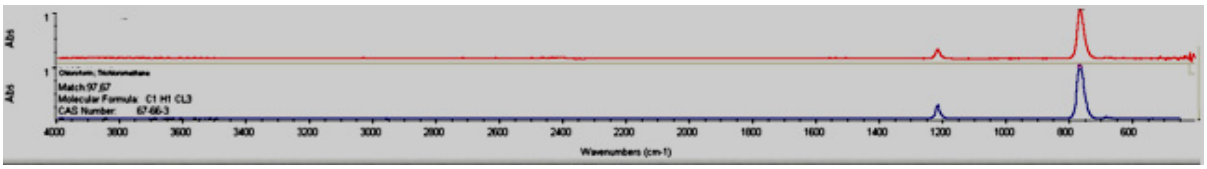
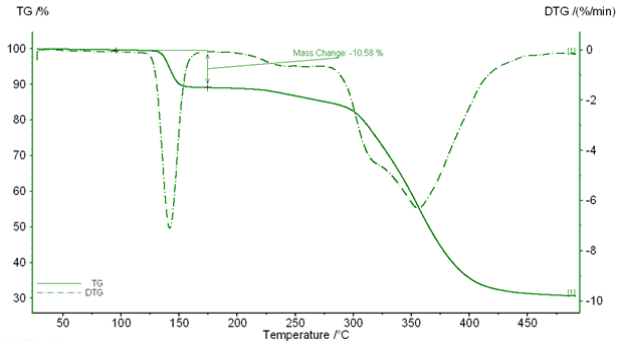
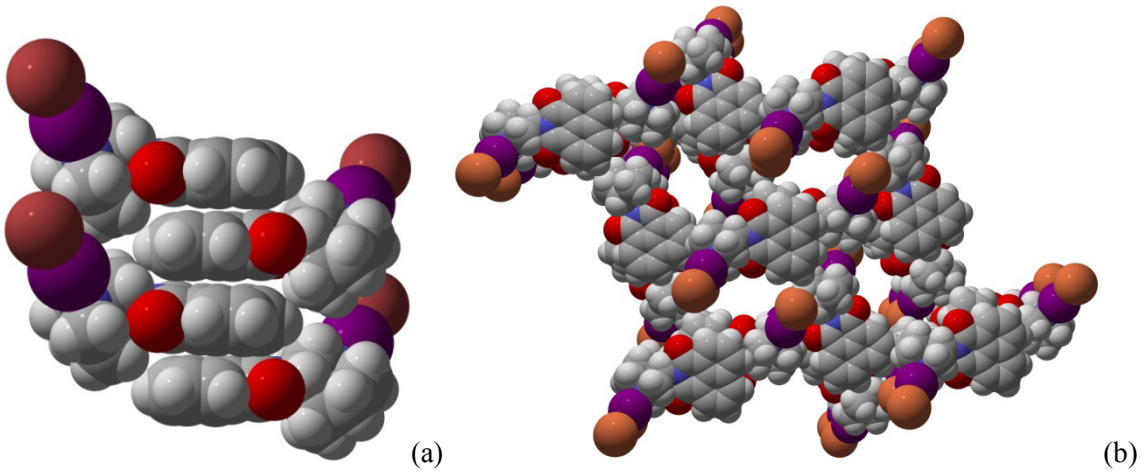


(a)



(b)

Fig. SI-1. FTIR (a) obtained from the gases evolved from a TGA measurement (b) performed on [(S)NMiABCO·I_2]·x$CHCl_3$ (**4**).



(a) (b)

Fig. SI-2. Space-filling representations of compound [(S)NMiABCO· IBr]·x$CHCl_3$ (**5**): (a) columnar stacking and (b) a view down the crystallographic *a*-axis, showing the monodimensional channels accommodating the disordered $CHCl_3$ solvent molecules (not shown).

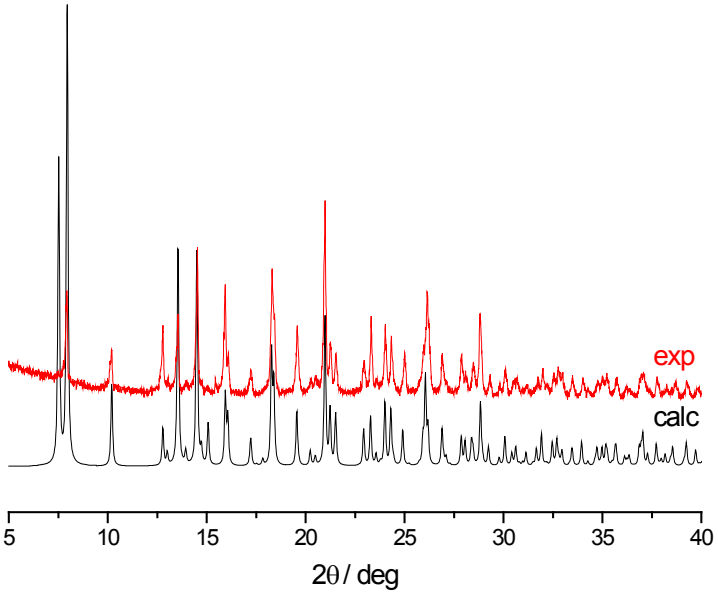


Fig. SI-3. Comparison between the XRPD patterns for complex **5** calculated (calc) on the basis of single crystal data and measured (red) on the ground crystals.

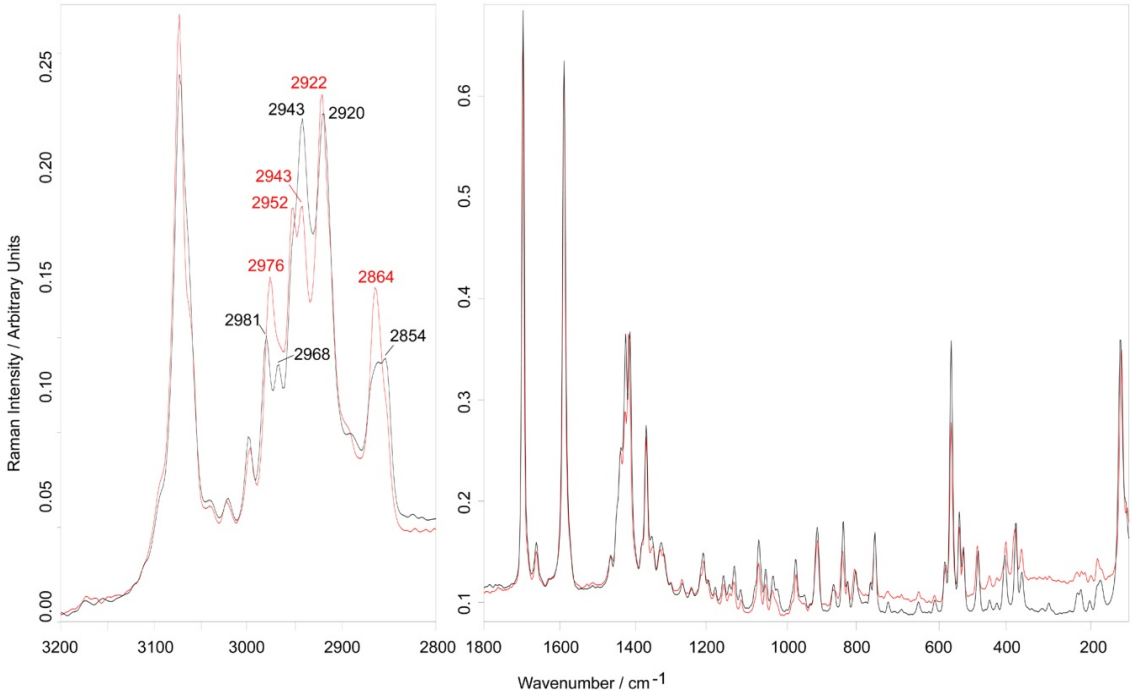
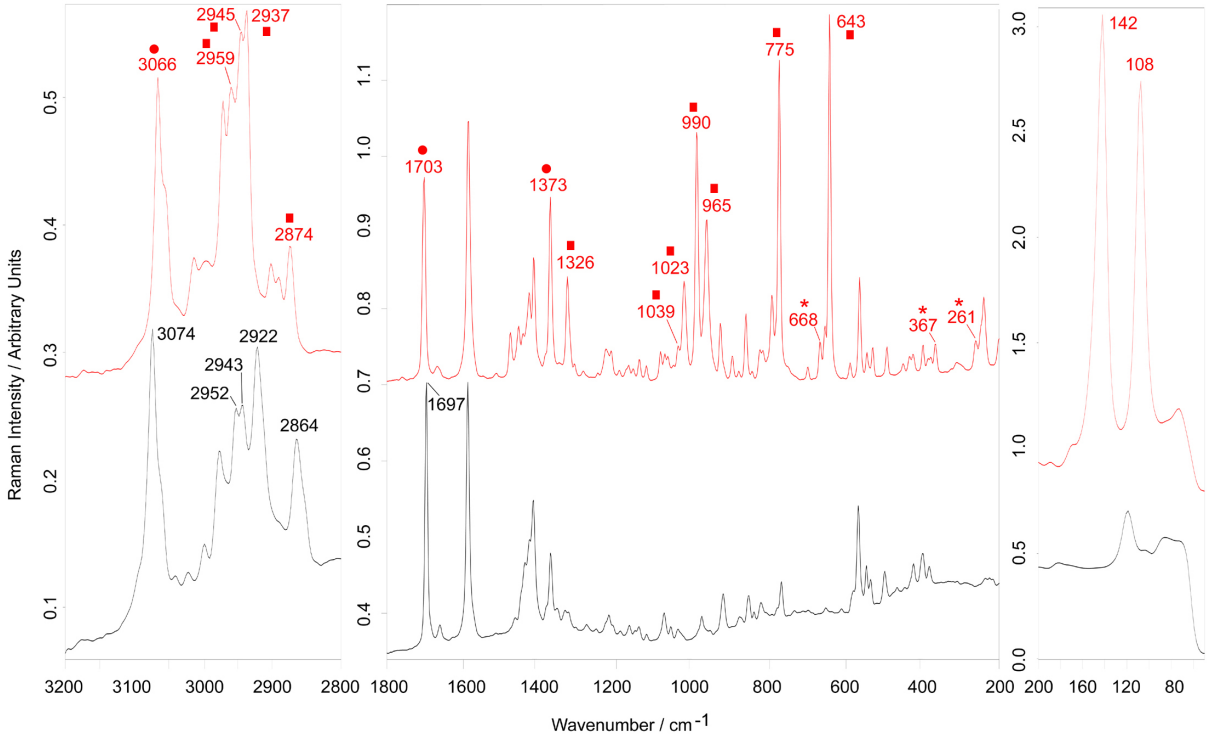
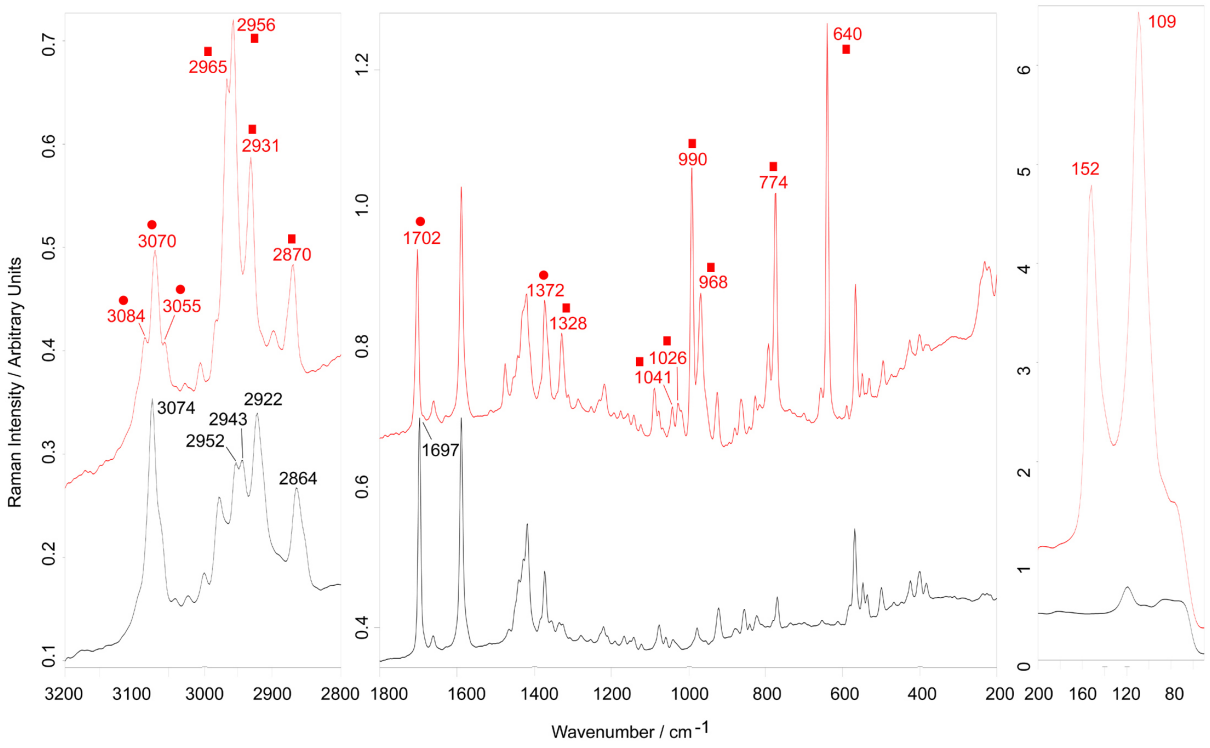


Figure SI-4. Raman spectra of compounds **1** (black) and **2a** (red). The differences detected in the 3000-2800 cm^{-1} spectral region, where the νCH_2 stretching modes of quinuclidine fall, may be related to the differences in the hydrogen-bonding patterns observed by XRD: the C–H groups of quinuclidine are involved in this kind of interaction only in **2a**. The spectrum of **2b** is not reported since coincident with that of **2a**.



(a)



(b)

Figure SI-5. Raman spectra of: (a) **2a** (black, bottom) and adduct **4** (red, top) and (b) **2a** (black, bottom) and adduct **4_desolv** (red, top). The spectra are normalized to the intensity of the band at 1589 cm^{-1} (aromatic **ν**CC). The main bands of quinuclidine (■) and naphthalimide (●) moieties that underwent changes upon adduct formation are indicated as well as the bands due to $CHCl_3$ (*).

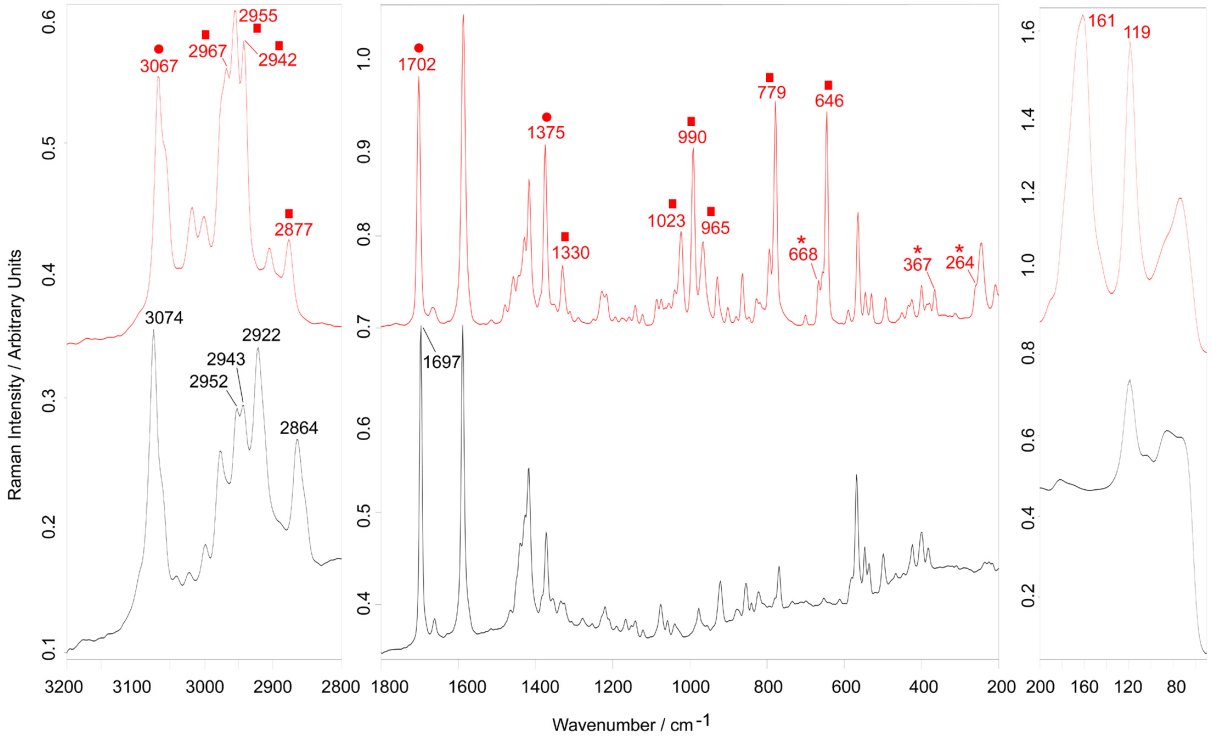


Figure SI-6. Raman spectra of (S)NMiABCO (**2a**) (black, bottom) and adduct **5** (red, top). The spectra are normalized to the intensity of the band at 1589 cm^{-1} (aromatic **ν**CC). The main bands of quinuclidine (■) and naphthalimide (●) moieties that underwent changes upon adduct formation are indicated as well as the bands due to $CHCl_3$ (*).