

Electronic Supplementary Information for

# Aggregation-Induced Chiral Symmetry Breaking of A Naphthalimide–Cyanostilbene Dyad

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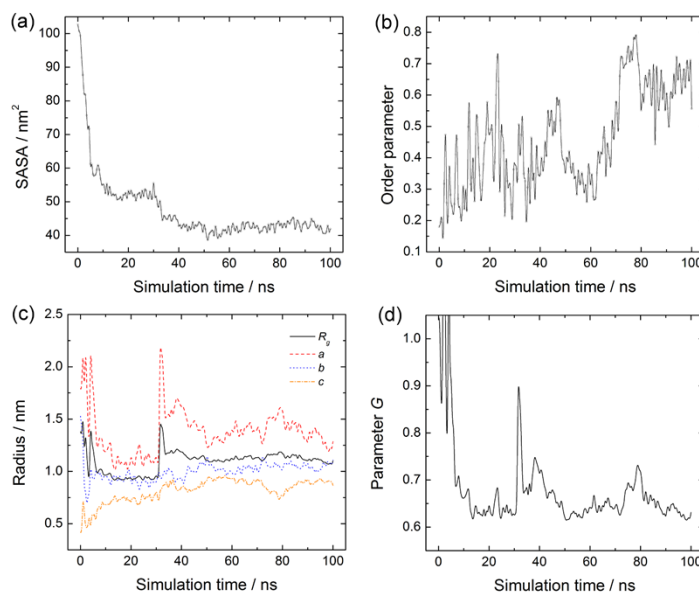
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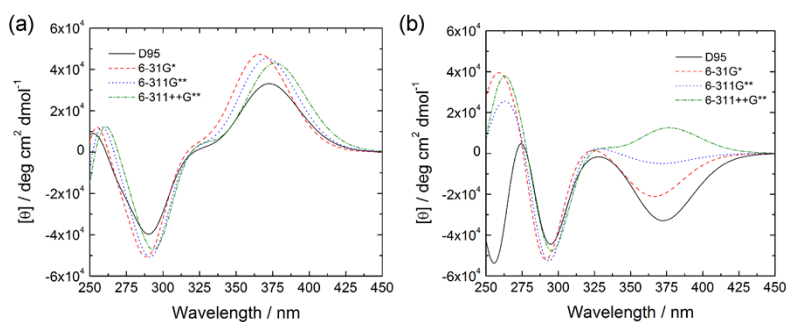
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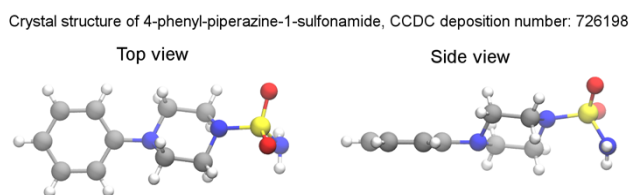
## Supplementary Figures



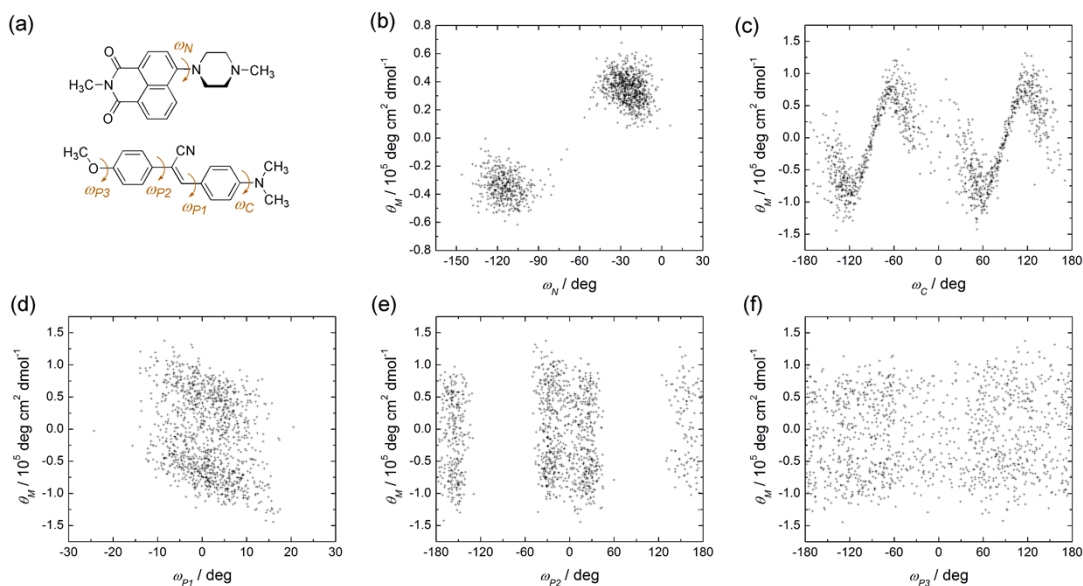
**Figure S1.** (a) Solvent accessible surface area (SASA) of the self-assemblies of the naphthalimide-cyanostilbene dyad in DMSO/H<sub>2</sub>O (1:9) solution. (b) Order parameter of cyanostilbene and naphthalimide subunits in the self-assemblies of the naphthalimide-cyanostilbene dyad. (c) Radius of gyration  $R_g$  and the three effective radii  $a$ ,  $b$  and  $c$  along the principal axes of the self-assembly. (d) The triaxial ellipsoid shape parameter  $G$  determined by  $a$ ,  $b$  and  $c$ .



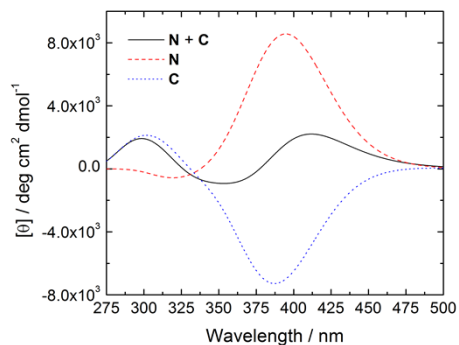
**Figure S2.** Basis set benchmark for (a) the dipole-velocity and (b) the dipole-length formula for CD spectrum, computed at a snapshot of the “N” unit using the hybrid PBE0 functional and different basis sets.



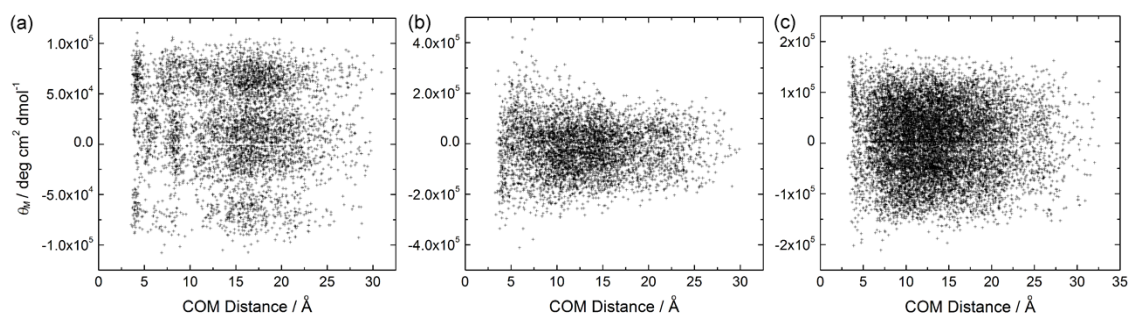
**Figure S3.** Crystal structure of an *N*-aryl piperazine derivative showing tetrahedral configuration of aryl nitrogen atom.



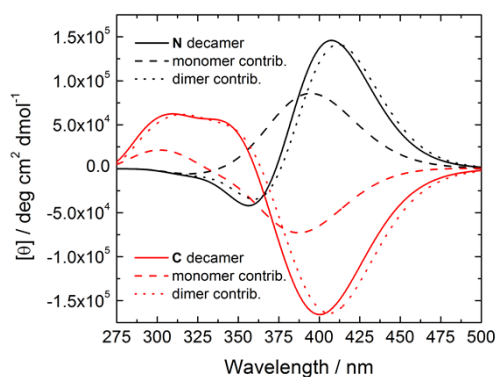
**Figure S4.** (a) Dihedral angles of the two chromophores. (b) Dependence of  $\theta_M$  on dihedral angle  $\omega_N$ . (c–f) Dependence of  $\theta_M$  on dihedral angles (c)  $\omega_C$ , (d)  $\omega_{P1}$ , (e)  $\omega_{P2}$ , and (f)  $\omega_{P3}$ .



**Figure S5.** Averaged CD spectrum of the monomers: the “N” unit, the “C” unit, and their sum “N+C”.



**Figure S6.** Dependence of maximal molar ellipticity  $\theta_M$  of dimers on the center-of-mass (COM) distance between the two units for (left) the “N-N” dimer, (middle) the “C-C” dimer, and (right) the “N-C” dimer.



**Figure S7.** CD spectra computed by the exciton-coupled matrix method for the “N” decamer and the “C” decamer, together with their corresponding monomer and dimer contributions.