Electronic Supplementary Information

Dye adsorption-assisted colloidal dispersion of single-walled carbon nanotubes in polar solvents

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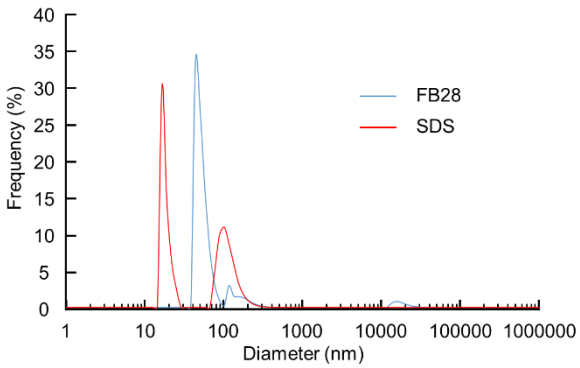

Figure S1. Particle size analysis with dynamic light scattering for sodium dodecyl sulfate (SDS)-assisted and FB28-assisted aqueous SWCNT dispersion. SDS solution showed the particle probability around 20 nm, corresponding to the formation of micelles. FB28 dispersion contained ca. 50 nm particles, indicating FB28 is insoluble at a molecular level, and colloidally dispersed in water.

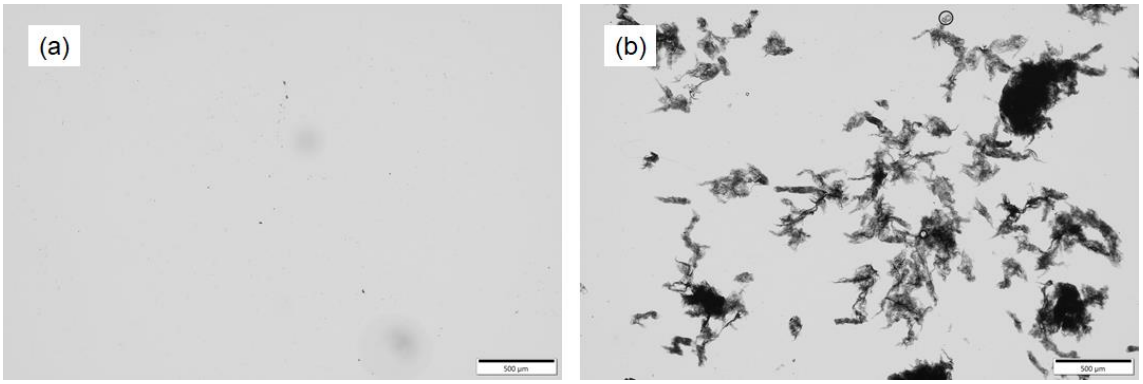

Figure S2. Optical microscopy image of SWCNT dispersion (a) with and (b) without dispersant FB220. Scale bars indicate 500 μm. FB220-assisted dispersion showed little aggregates while the dispersion without surfactants contains μm-scale aggregates visualized by optical microscopy.

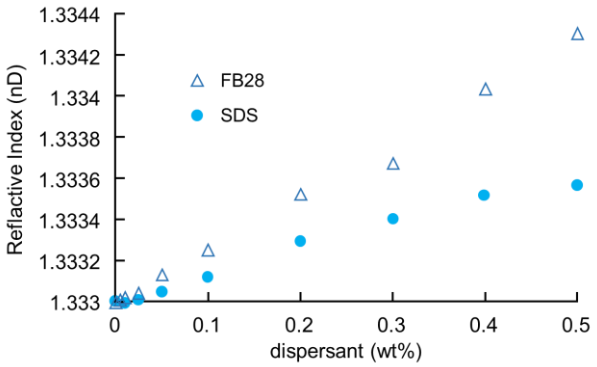

Figure S3. Refractive index for the confirmation of micelle formation. The refractive indices of aqueous FB28 solution is proportional to the concentration of FB28 while those of aqueous SDS solution is non-linear at the critical micellar point (*ca.* 0.2%).

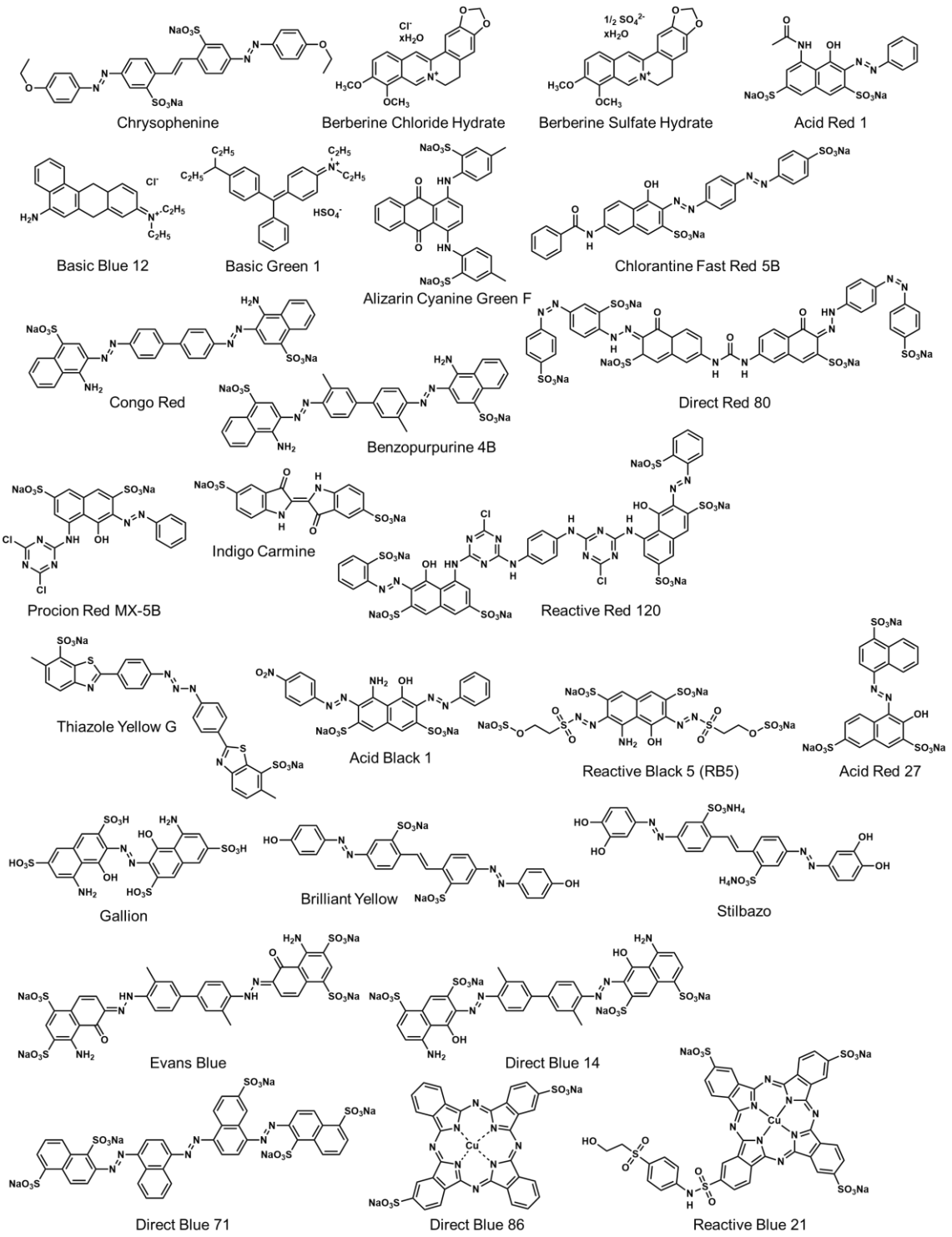

Figure S4. Chemical structures used in Figure 4. Amsonic acid (diaminostillbene disulfonic acid), FB28 and FB220 are listed in the main text Figure 1.