Supplementary Materials:

Investigation on the doping of dyes in the single crystalline anhydrous guanine microplatelet and their optical properties

Dongmei Guo, [ab] *Ying Zhang,* [a] *Chuyi Liang,* [a] *Jingyan Hao,* [a] *Clara Gonzalez,* [a] *Juan Gao,* [a] *Yurong Ma* *[a]

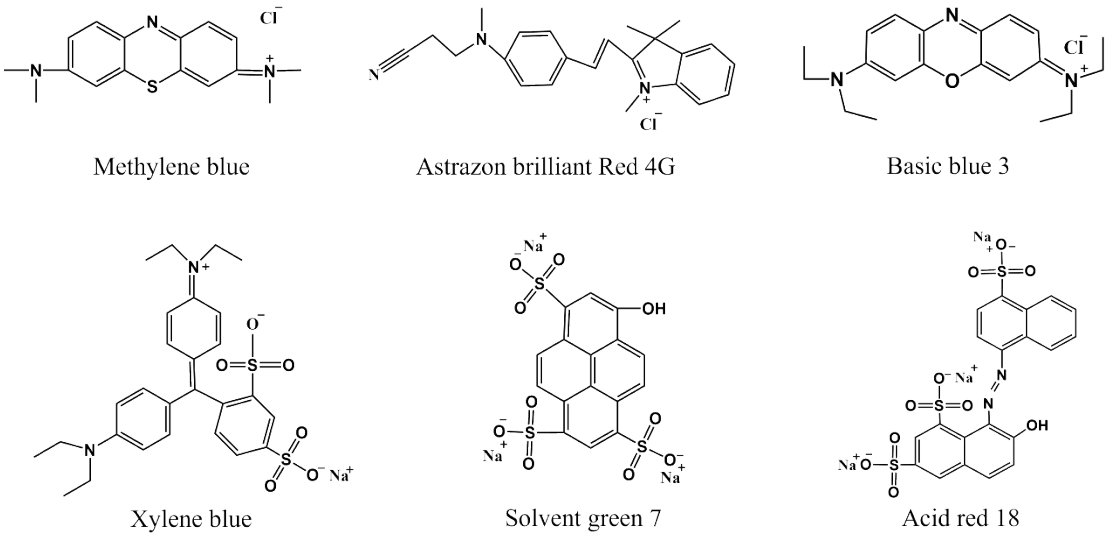

Figure S1. Structure formulas of ionic dyes used for doping experiments.

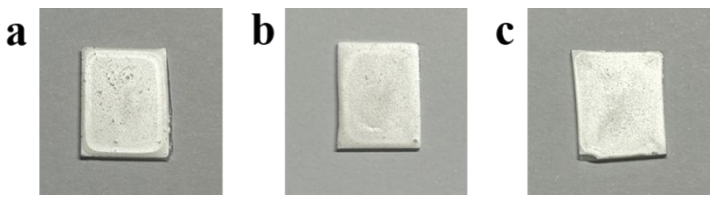

Figure S2. Photographs of β-AG crystals doped with (a) xylene blue, (b) solvent green 7 and (c) acid red 18.

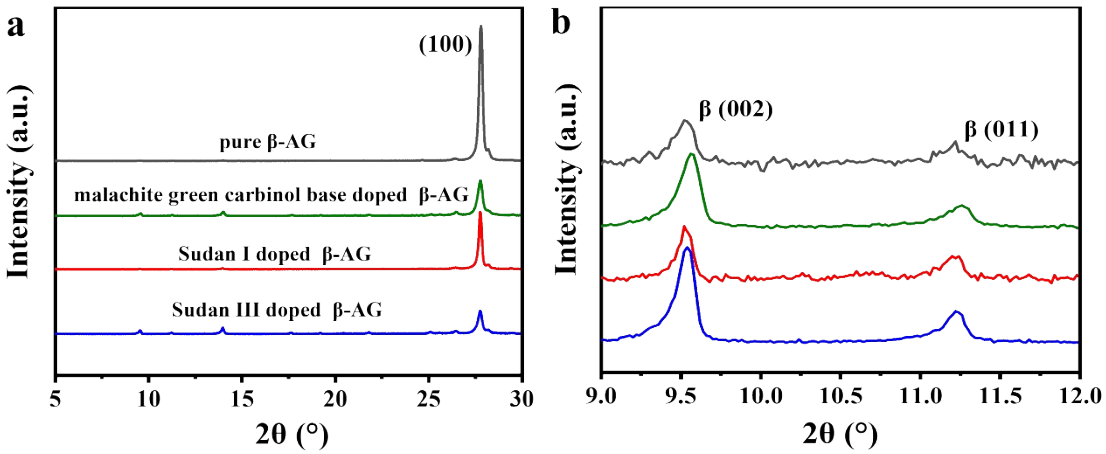

Figure S3. PXRD patterns of synthesized molecular dye-doped β-AG crystals in the 2θ range of (a) 5-30° and (b) 9-12°.

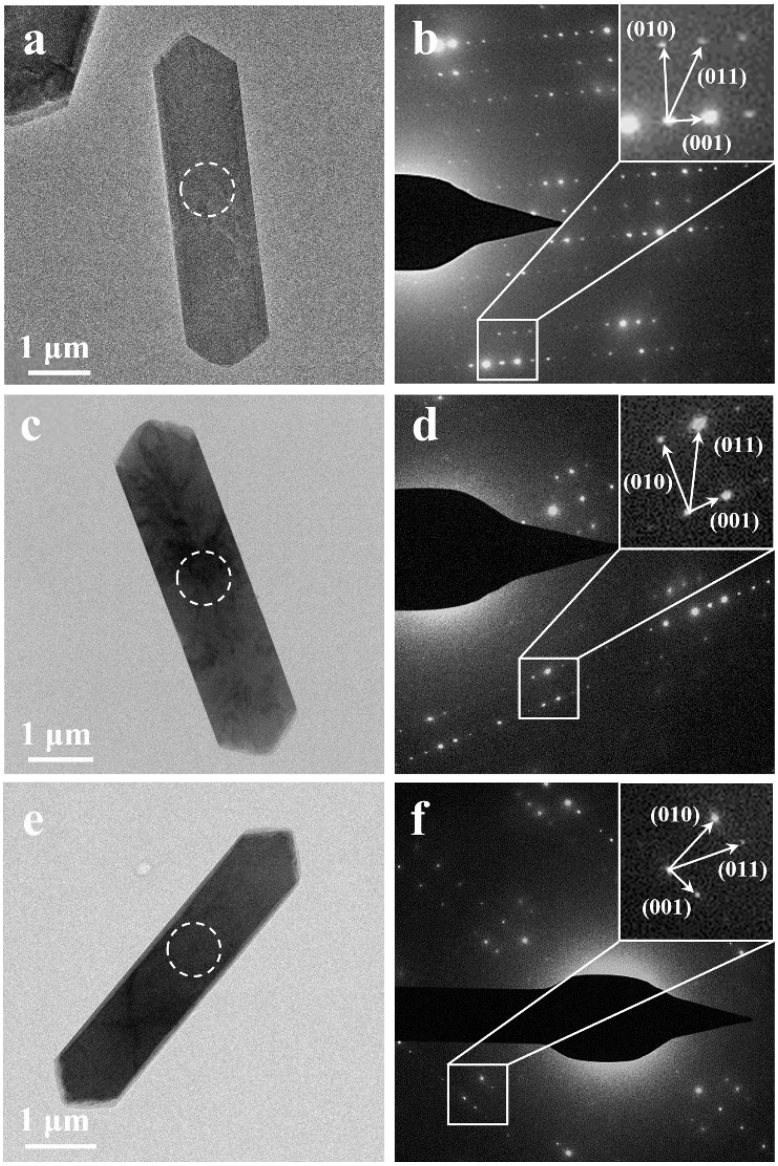

Figure S4. (a) TEM image and (b) corresponding SAED pattern of malachite green carbinol base doped β-AG crystals, (c) TEM image and (d) corresponding SAED pattern of Sudan I doped β-AG crystals, (e) TEM image and (f) corresponding SAED pattern of Sudan III doped β-AG crystals.

Figure S5. Photographs of (O) pure β-AG crystals, β-AG crystals after adsorbed (I) Sudan III, (II) Sudan I, (III) cationic golden yellow X-GL, (IV) cationic brilliant red 4G, (V) astrazon pink FG, (VI) basic blue 3, (VII) methylene blue, (VIII) crystalline violet, (IX) basic green 4 and (X) malachite green carbinol base.

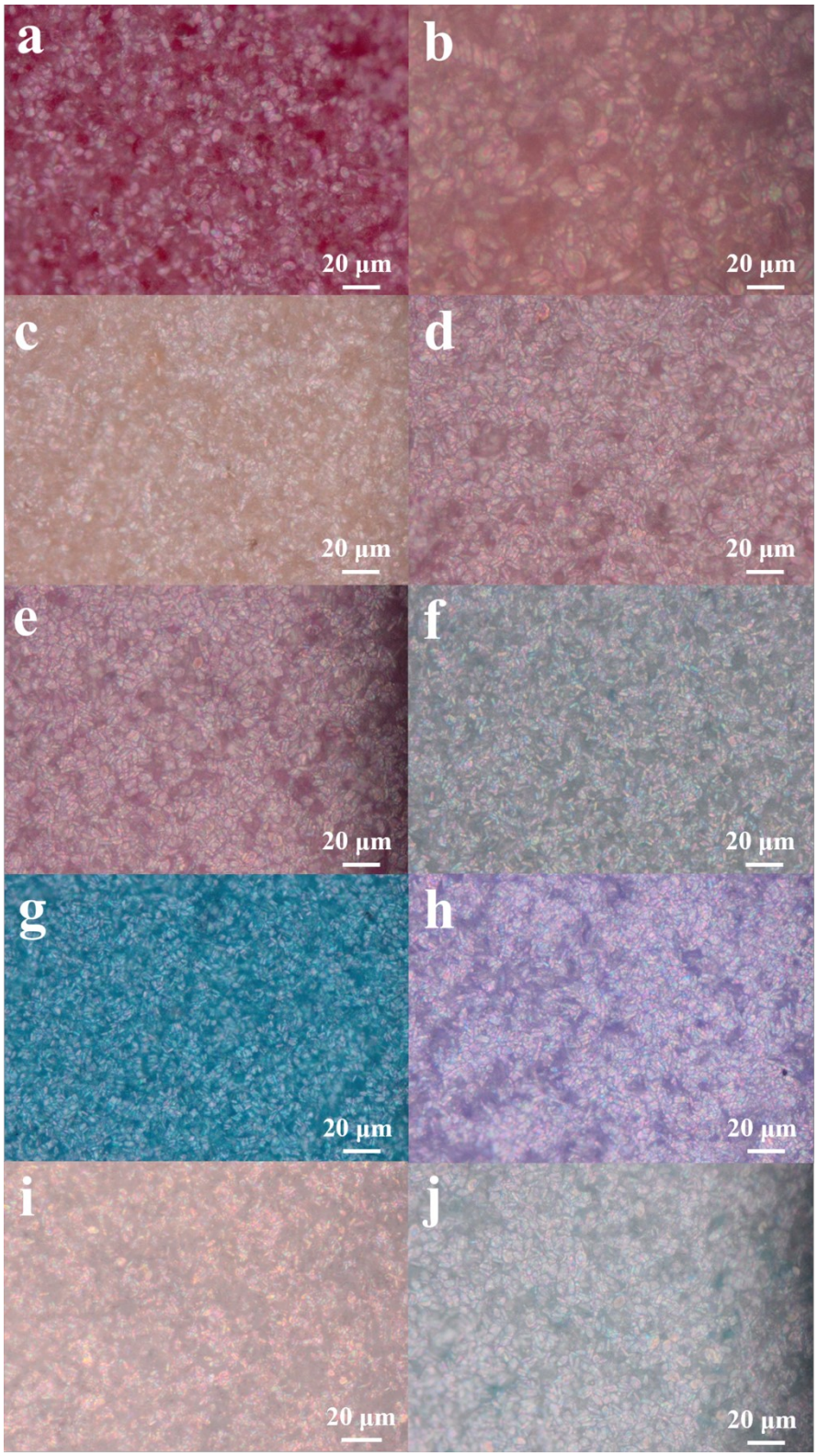

Figure S6. Optical microscope images of colored β-AG crystals doped with different dyes, (a) Sudan III, (b) Sudan I, (c) cationic golden yellow X-GL, (d) cationic brilliant red 4G, (e) astrazon pink FG, (f) basic blue 3, (g) methylene blue, (h) crystalline violet, (i) basic green 4 and (j) malachite green carbinol base.

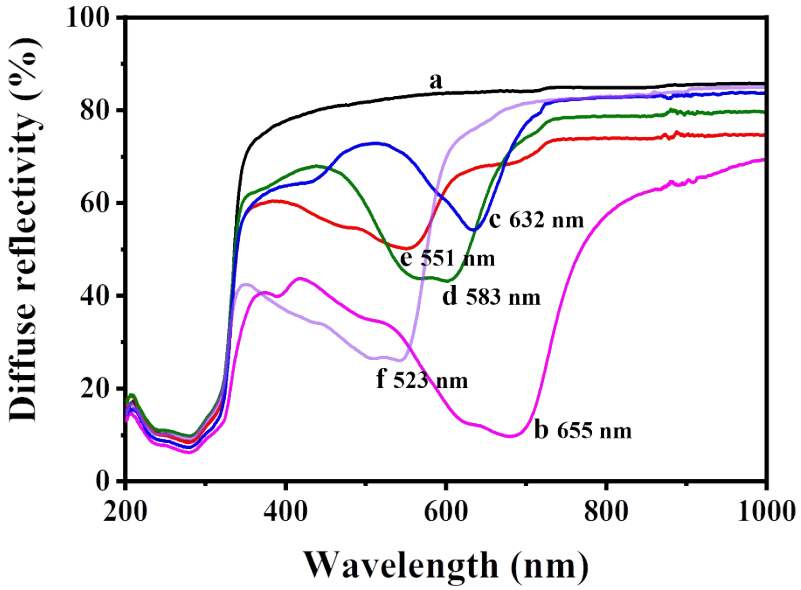

Figure S7. Diffuse reflection spectra of the synthesized (a) pure β-AG crystals, (b-f) β-AG crystals doped with different dyes, (b) methylene blue, (c) malachite green carbinol base, (d) crystalline violet, (e) cationic brilliant red 4G, (f) Sudan I.