Precise control of photoemission and circularly polarized emission achieved through resonant coupling of chiral nanoparticles with Ag particles

Rongze Ma,[a] Dedan Mu, [a] Yanni Lang, [a] Liang Xu, [a] Haoxin Wang,[b] Songtao Li, [b] Yongjin Li, [a] Zhiguo Song, [a] Dacheng Zhou, [a] Yong Yang, [a] Yugeng Wen, [a] Jin Han,[*][a] and Jianbei Qiu[*][a]

[a]Faculty of Materials Science and Engineering

Key Laboratory of Advanced Materials of Yunnan Province

Kunming University of Science and Technology

Kunming 650093, P. R. China

Prof. Jin Han, Email: jaakaa@163.com

Prof. Jianbei Qiu, Email: qiu@kust.edu.cn

[b]Department of Mathematics and Physics, North China Electric Power University, 071003 Baoding, China
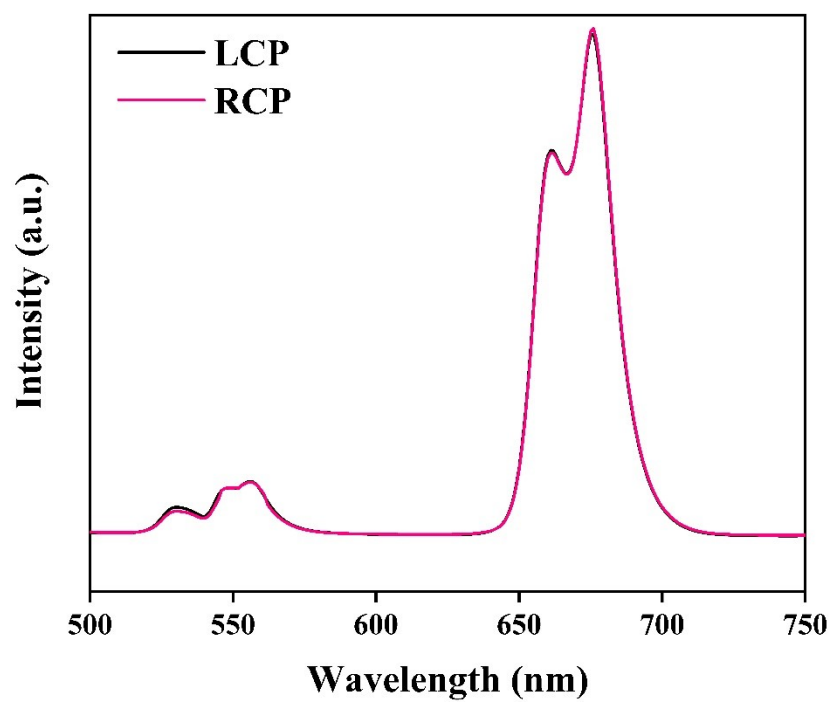
Prof. Songtao Li, Email: songtaoli2001@126.com

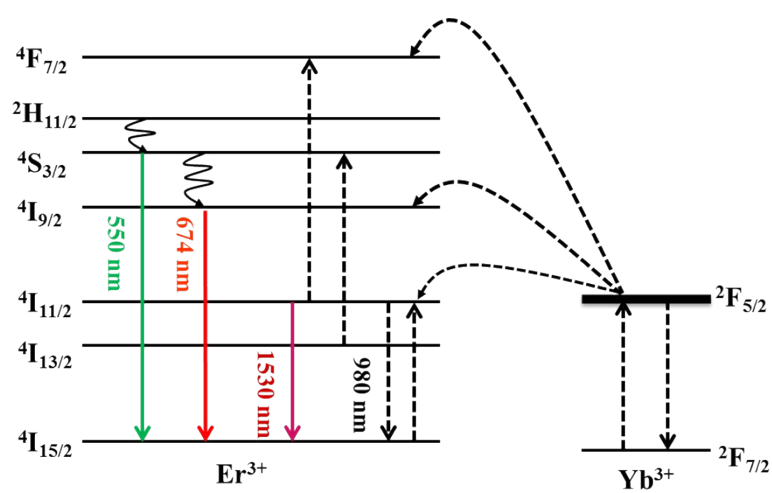Figure S1. LCP and RCP UCL from the A-BYE.

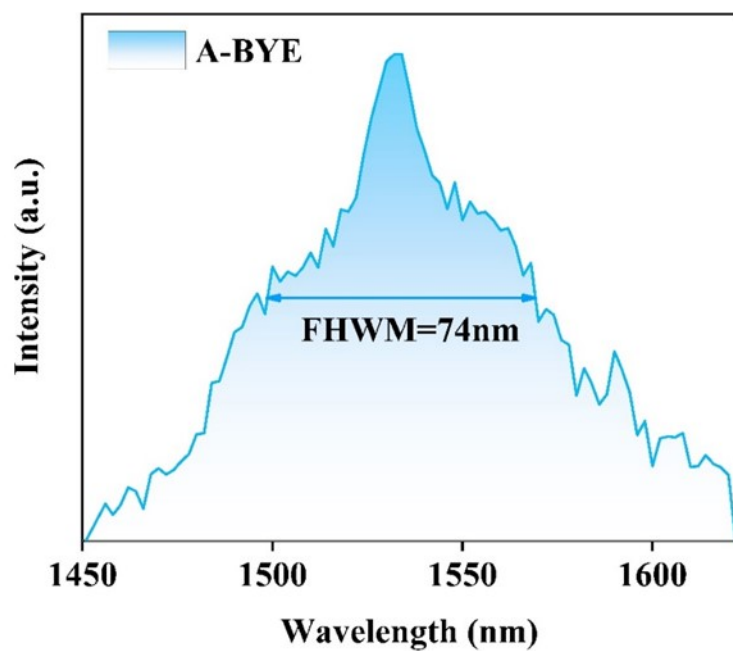Figure S2. Schematic illustration of the energy transfer mechanism.

Figure S3. PL emission spectra of A-BYE samples under 980 nm laser excitation, with full width at half maximum (FWHM) labeled.
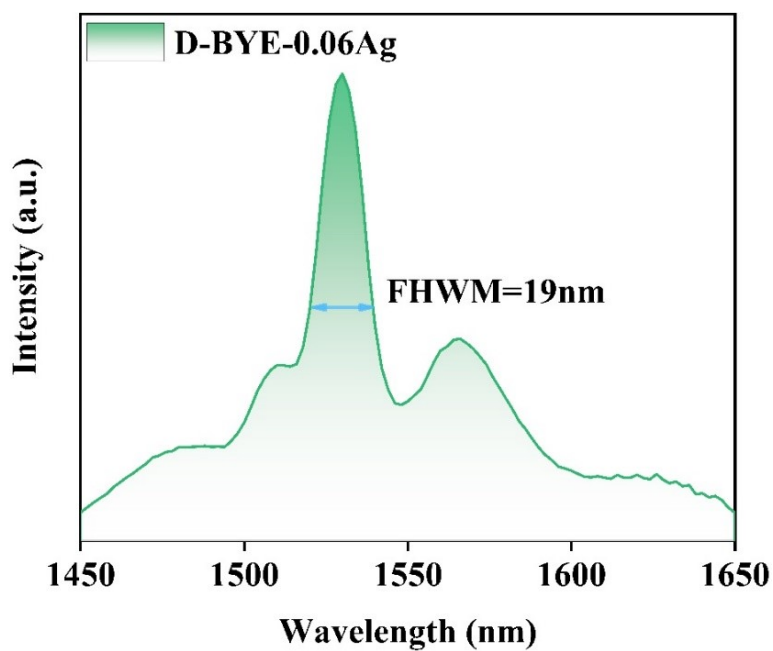

Figure S4.PL emission spectra of D-BYE-0.06Ag samples under 980 nm laser excitation, with FWHM labeled.
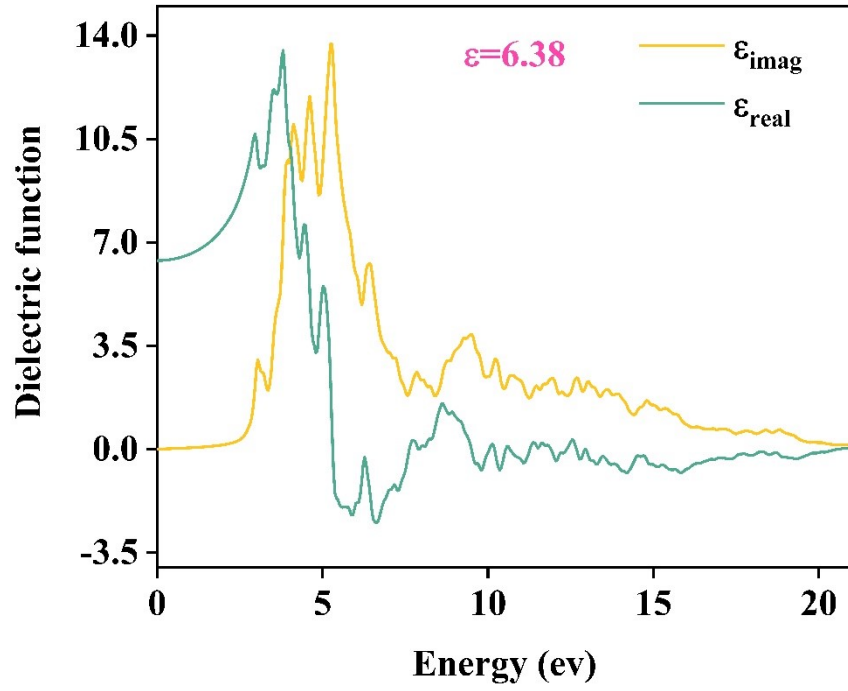
Figure S5. Dielectric function diagram of D-BYE calculated by first principles.
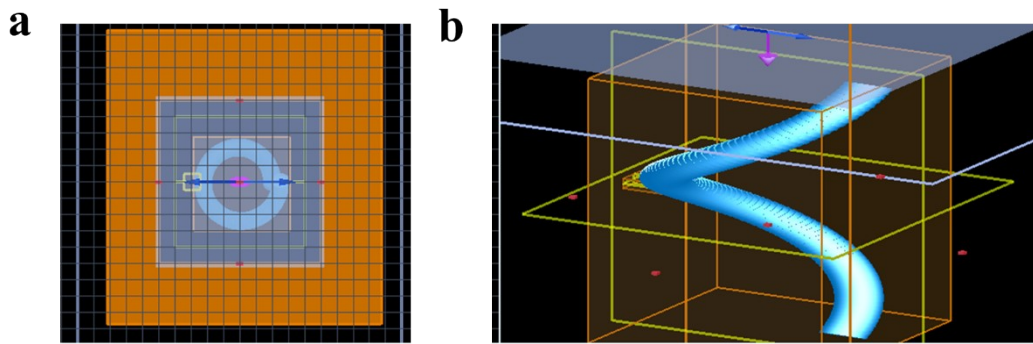

Figure S6. FDTD solution modeling for D-BYE samples.
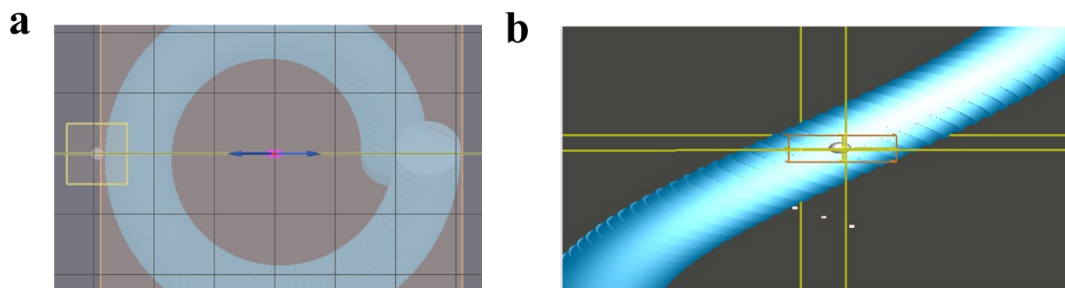

Figure S7. FDTD solution modeling for D-BYE-0.06Ag samples.
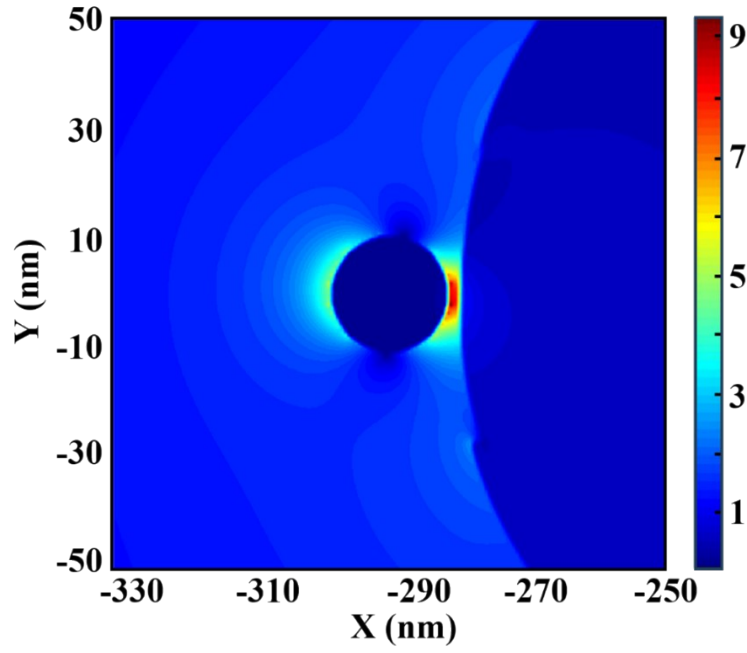
Figure S8. Electromagnetic field distribution in the X-Y plane obtained from an

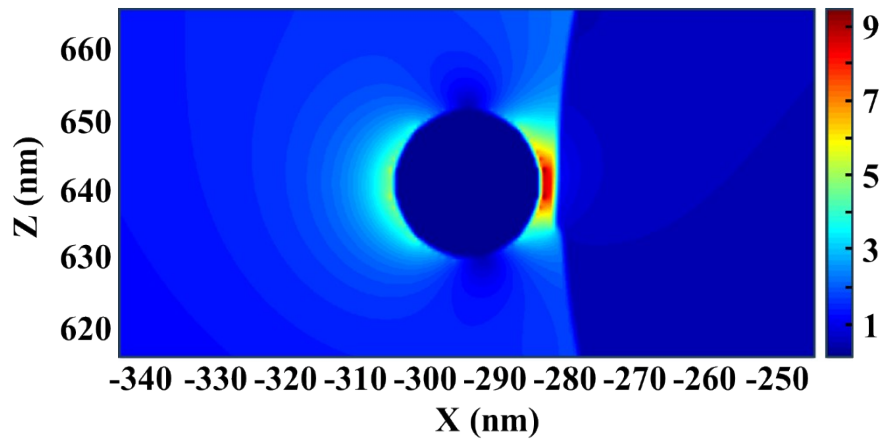FDTD simulation of the D-BYE-0.06Ag.

Figure S9. Electromagnetic field distribution in the X-Z plane obtained from an

FDTD simulation of the D-BYE-0.06Ag.