Electronic Supplementary Information for

Improved Amplified Spontaneous Emission of Organic Gain Media with Metallic Electrodes by Introducing a Low-loss Solution-Processed Organic Interfacial Layer

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1. Thin Electrode Effects on ASE Actions

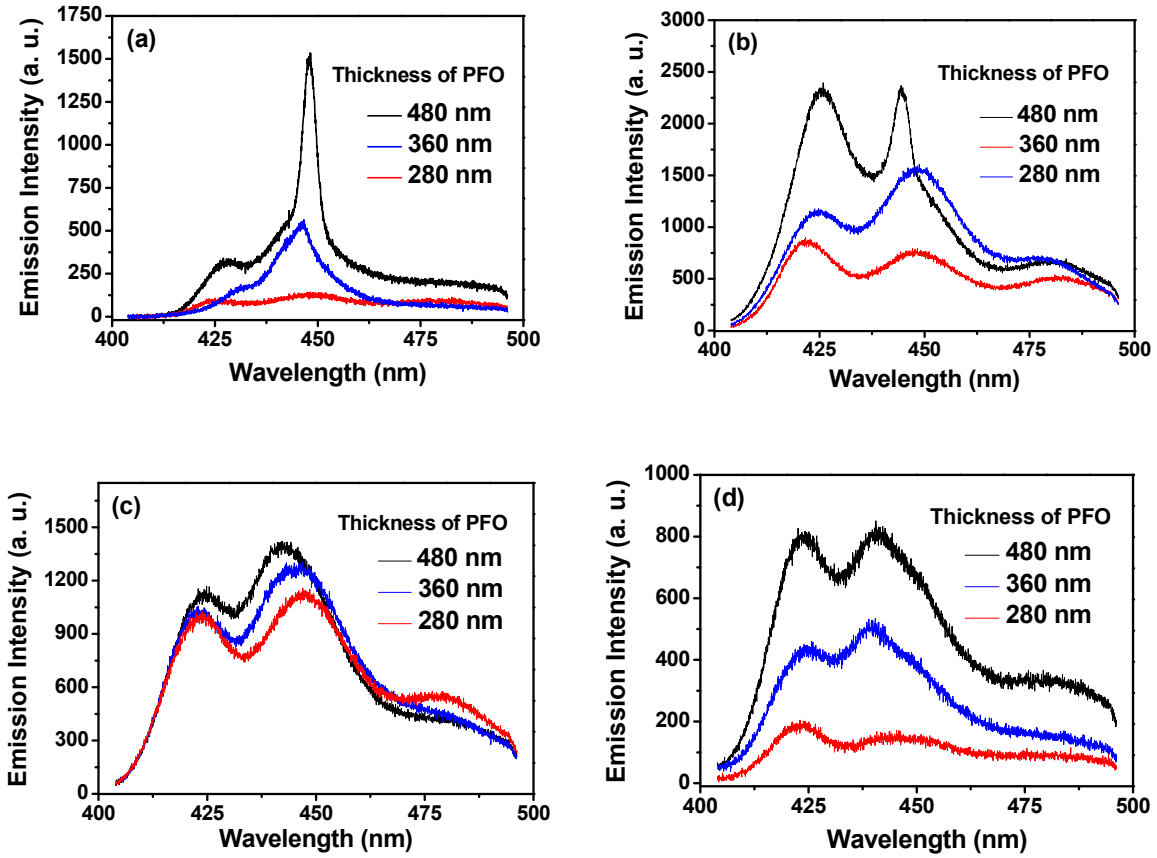

Fig. S1. The emission spectra for the devices of glass/metallic electrode/PFO integrated with Ag (a), Al (b), Cu (c), Au (d) with various thicknesses of PFO film ranging from 280 nm to 480 nm (the thickness of metallic electrodes fixed at 20 nm) under identical pumping conditions with the pump fluence at around 297 μJ/cm^2.

2. Surface Morphology of the Metallic Electrodes

2.1 AFM results

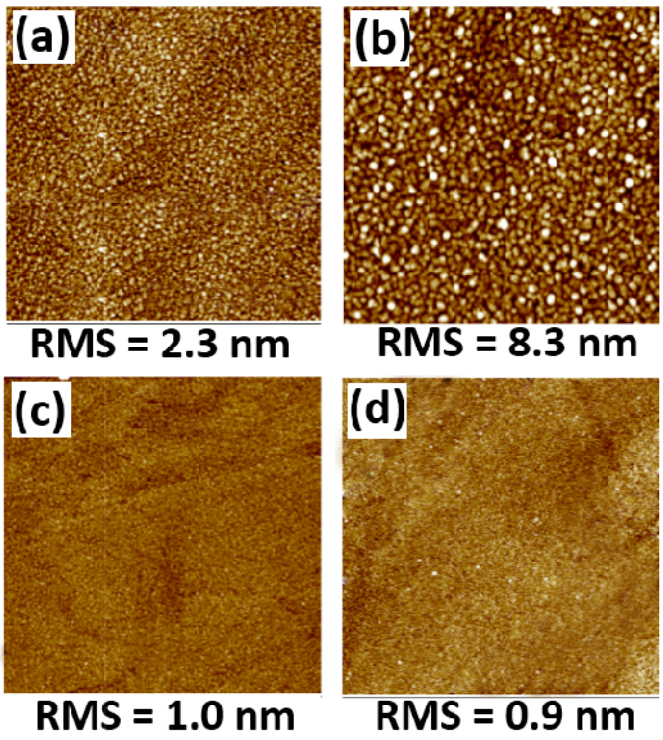

Fig. S2. Surface morphologies for Ag (a), Al (b), Cu (c), Au (d), with thickness of 100 nm on the top of glass substrates. The scanning size is 5×5 μm.

2.2 SEM results

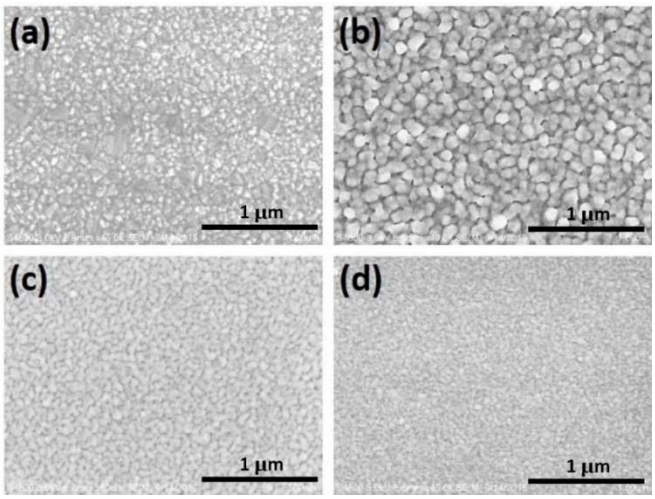

Fig. S3. The scanning electron microscope (SEM) images for the surfaces of Ag (a), Al (b), Cu (c), Au (d), with identical thickness at around 100 nm on the top of glass substrates.

3. PL Decays

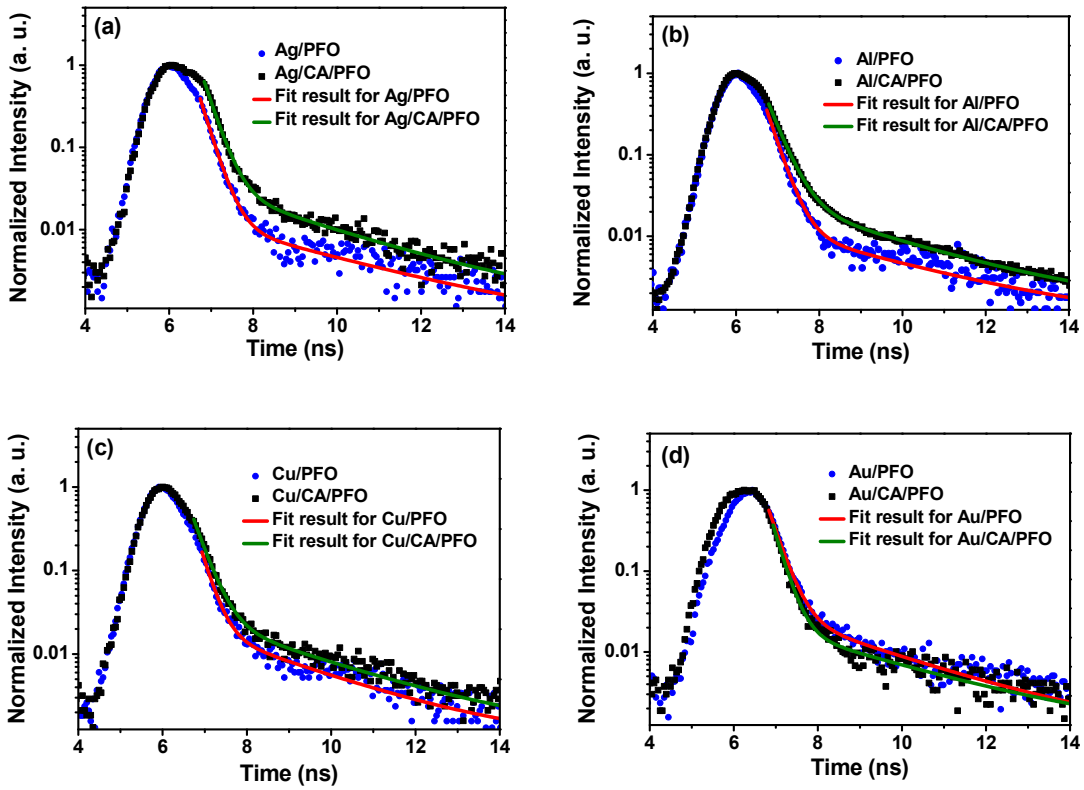

Fig. S4. The time-resolved photoluminescence (PL) decays for the devices with/without CA layers based on Ag (a), Al (b), Cu (c) and Au (d) electrodes (20 nm).

Table S1. Time-resolved PL decay characterizations for the devices.

Devices	τ_1 (ns)	Fraction 1	τ_2 (ns)	Fraction 2	Average (ns)
Glass/PFO	0.24	66%	2.3	34%	0.9
Glass/Ag/PFO	0.26	76%	3.0	24%	0.9
Glass/Ag/CA/PFO	0.27	71%	2.5	29%	0.9
Glass/Al/PFO	0.32	73%	3.25	27%	1.1
Glass/Al/CA/PFO	0.32	68%	2.59	32%	1.0
Glass/Cu/PFO	0.24	51%	2.3	49%	1.3
Glass/Cu/CA/PFO	0.29	67%	2.5	33%	1.1
Glass/Au/PFO	0.24	67%	2.7	33%	1.1
Glass/Au/CA/PFO	0.27	71%	2.5	29%	0.9

4. Chemical Structures

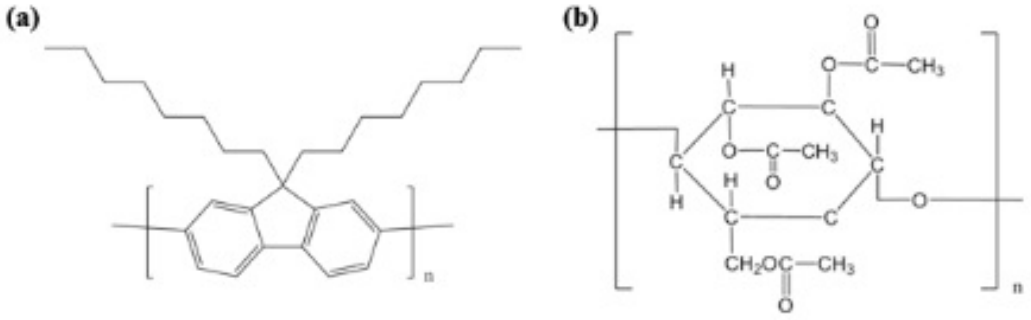

Fig. S5 Chemical structures of PFO (a) and CA (b).

5. Absorption Spectra of the Metallic Electrodes

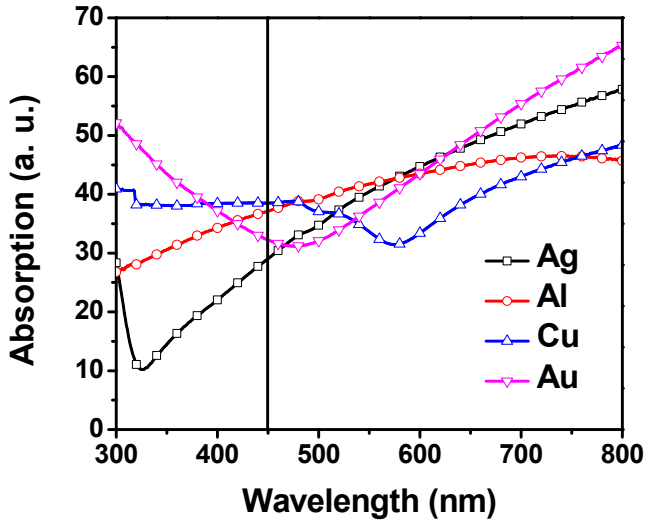

Fig. S6 The absorption spectra for various metallic electrodes with identical thickness of 20 nm.