

Supporting Information

Embedding plasmonic gold nanoparticles in ZnO layer enhanced the performance of inverted organic solar cells based on indacenodithieno [3,2-*b*]thiophene-*alt*-5,5'-di(thiophen-2-yl)-2,2'-bithiazole-based push-pull polymer

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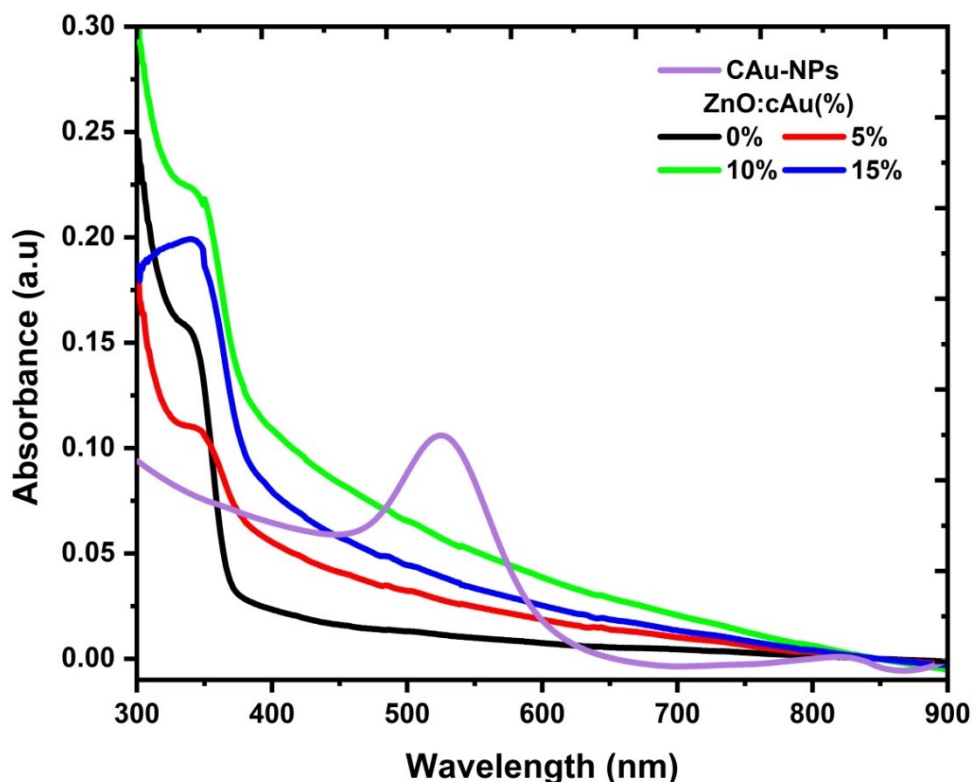


Figure S1:- The absorbance spectra of pure ZnO and cAu NPs embedded ZnO ETL

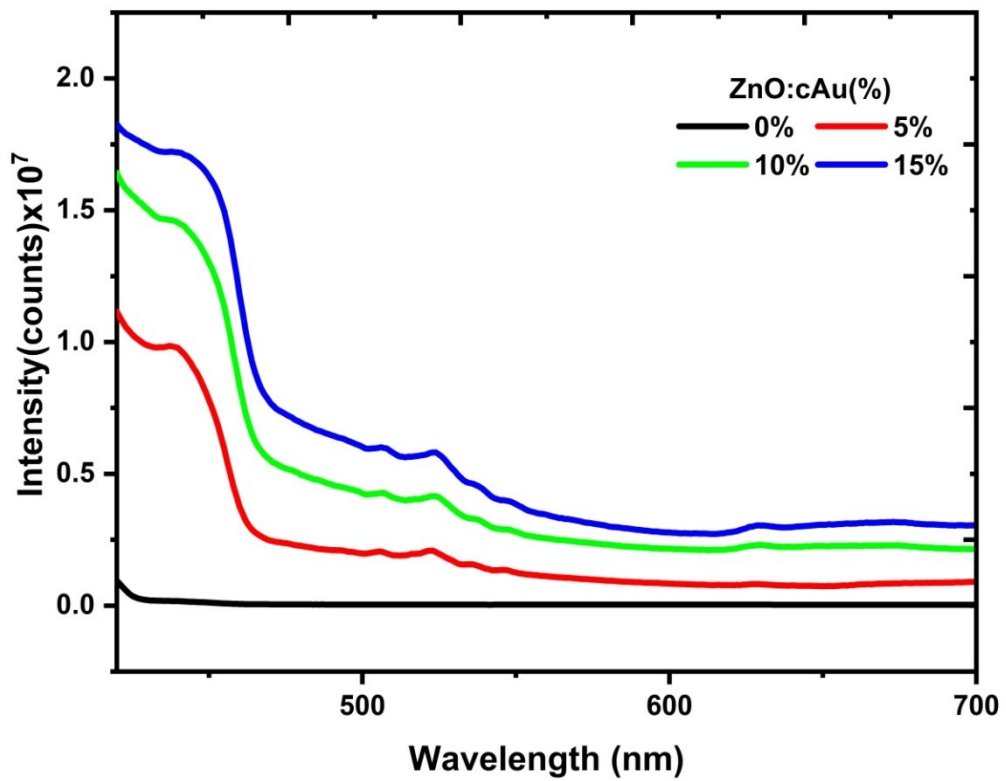


Figure S2:- The photoluminescence spectra of pure ZnO and cAu NPs embedded ZnO ETL

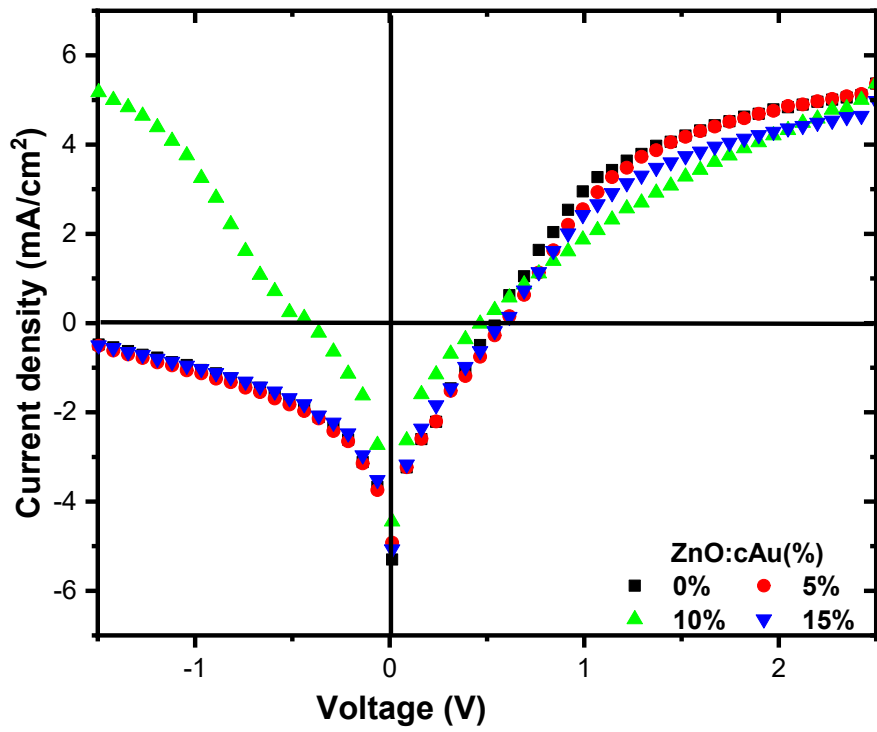


Fig.S3 J-V characteristics under dark condition

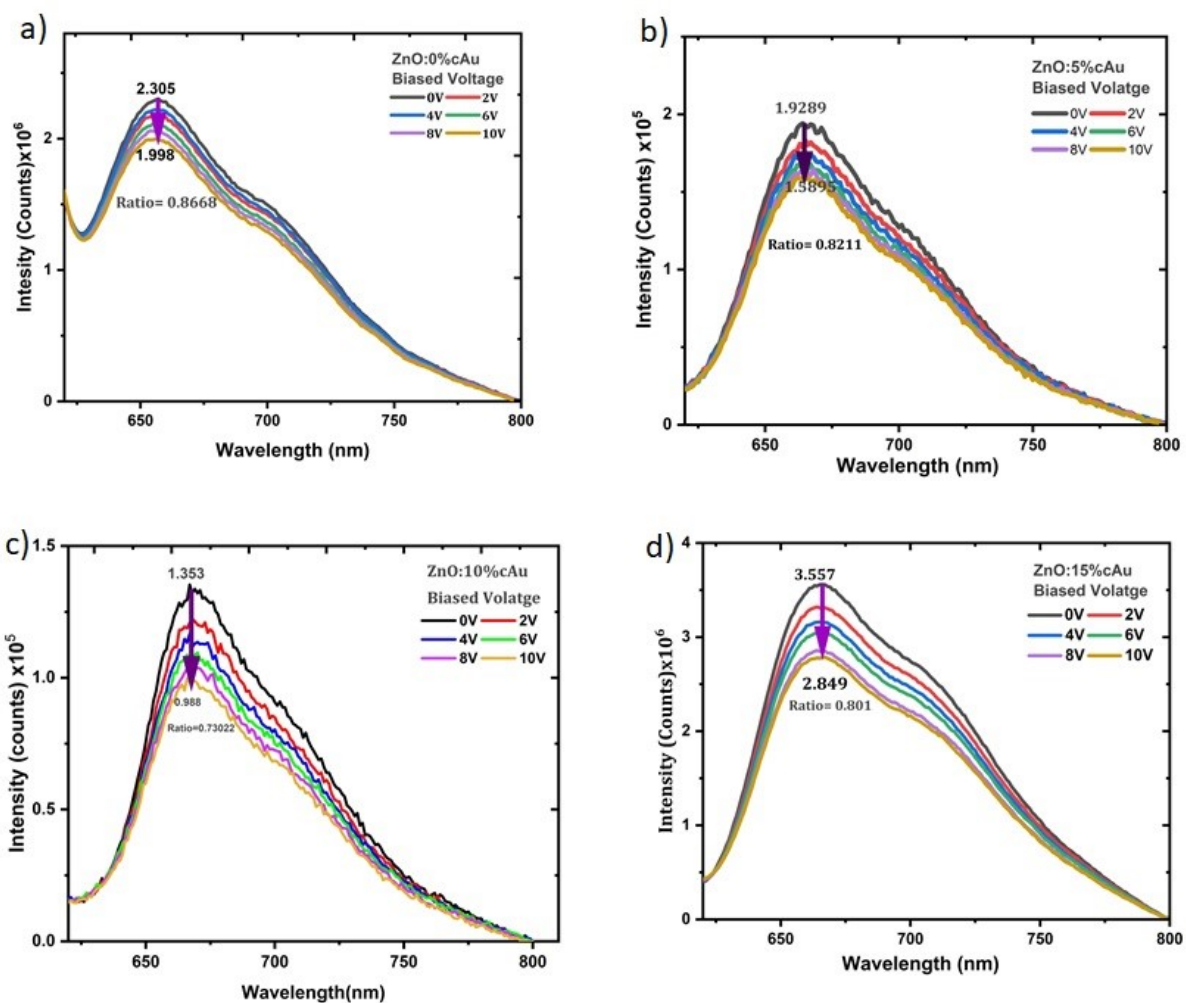


Figure S4:- The Photoluminescence spectra of donor polymer spin coated on pure ZnO and ZnO incorporated with different concentration of cAu NPs ETLs biased from 0V to 10V(a-d).

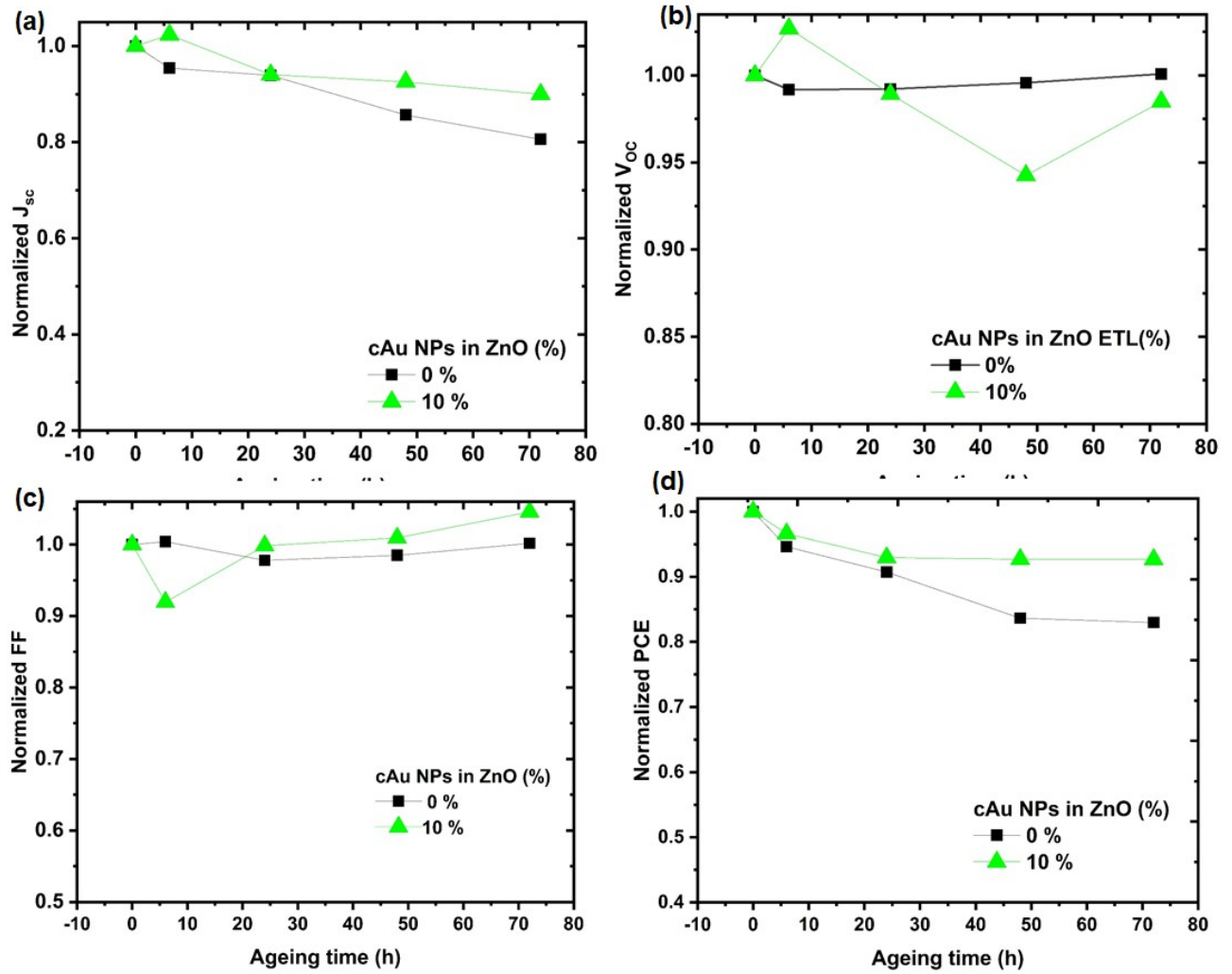


Fig.S5:- The durability of devices on shelf ageing based on J-V parameters for devices made on pristine ZnO and ZnO embedded with 10% cAu NPs.