Electronic Supplementary Material (ESI) for Materials Chemistry Frontiers.

ELECTRONIC SUPPLEMENTARY INFOMATION

Ester-substituted polyfluorene derivative for light-emitting electrochemical cells: bright blue emission and its application in a host-guest system

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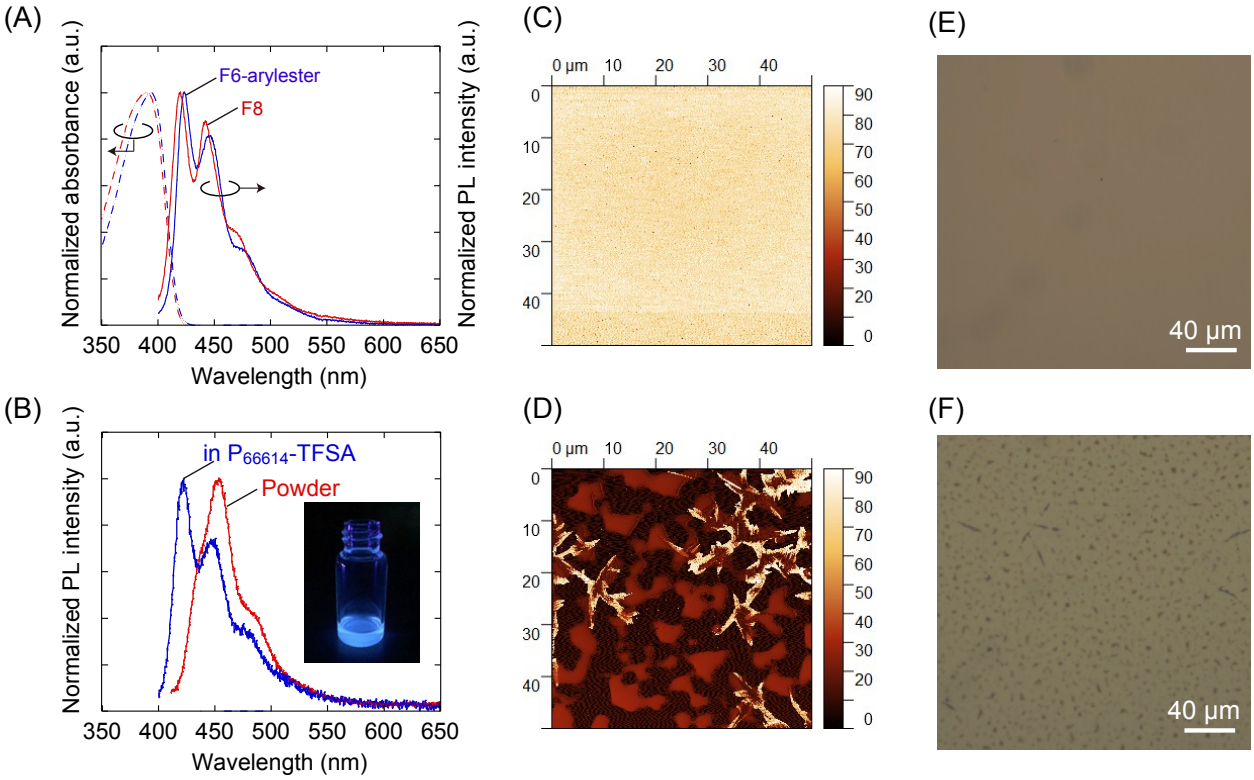

Fig. S1 (A) UV-Vis absorption and PL spectra of F6-arylester (blue) and F8 (red) in chlorobenzene solutions. (B) PL spectrum of F6-arylester dissolved in P_{66614}-TFSA (blue). PL spectrum of F6-arylester powder (red) is also shown for comparison. Inset shows photograph of P_{66614}-TFSA that dissolved F6-arylester under UV irradiation. The shape of the PL spectrum in the P_{66614}-TFSA the same to that in chlorobenzene, while it was distinct from that of powder. This clearly indicated the isolation of the polymer molecules without any aggregation. (C) and (D) show phase images of film blends of F6-arylester/P_{66614}-TFSA and F8/P_{66614}-TFSA, respectively. (E) and (F) show optical micrograph of film blend of F6-arylester/P_{66614}-TFSA and F8/P_{66614}-TFSA, respectively. Polymer/IL ratios in these films were controlled to be 4/1.

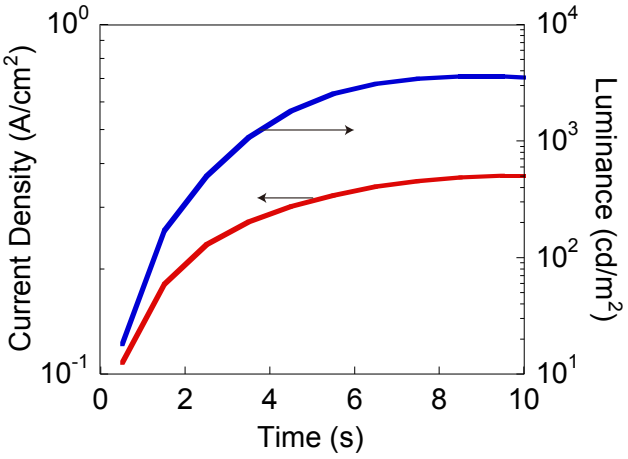

Fig. S2 Current density, luminance versus time for F6-arylester/P_{66614}-TFSA-based LEC during-fixed voltage of 4.2 V. The blend ratio of F6-arylester/P_{66614}-TFSA was 8/1.

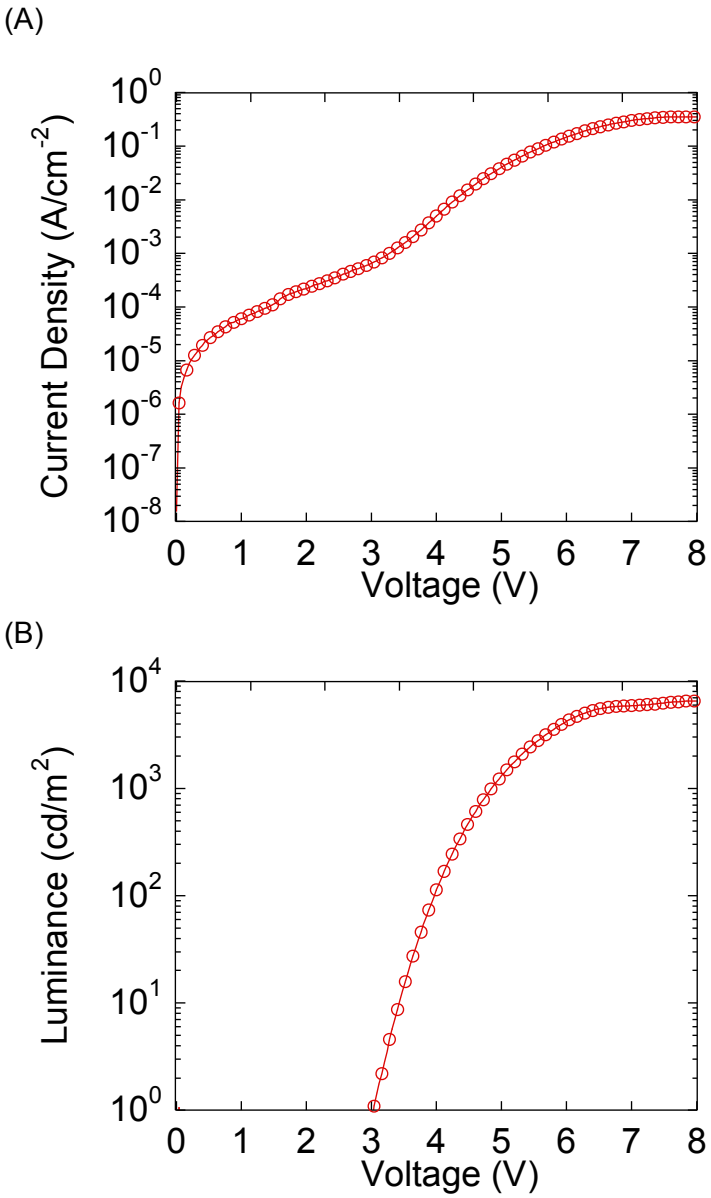

Fig. S3 Current density-voltage characteristics (A) and luminance-voltage characteristics (B) of LEC based on SY-PPV/P_{66614}-TFSA. SY-PPV/ P_{66614}-TFSA ratio was 6/1. The scan rate was 20 mV/s.