

Supplementary Information

Efficient OLEDs fabricated by solution process based on carbazole and thienopyrrolediones derivatives

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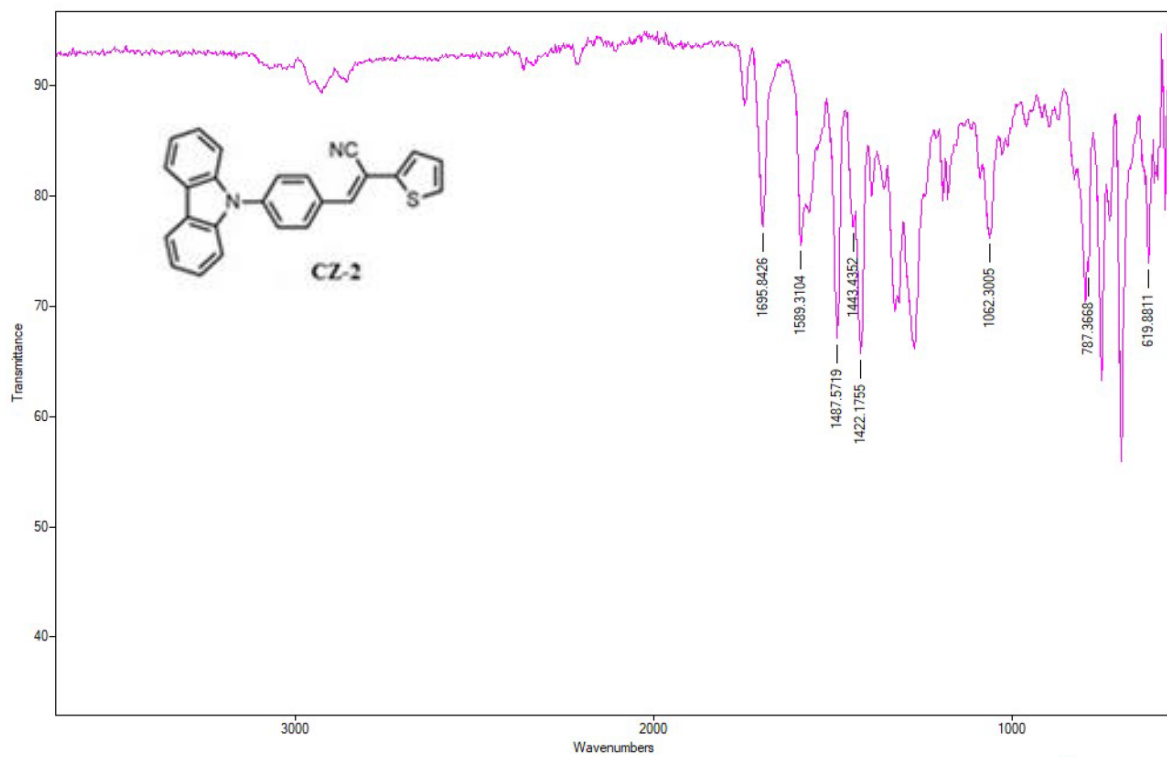
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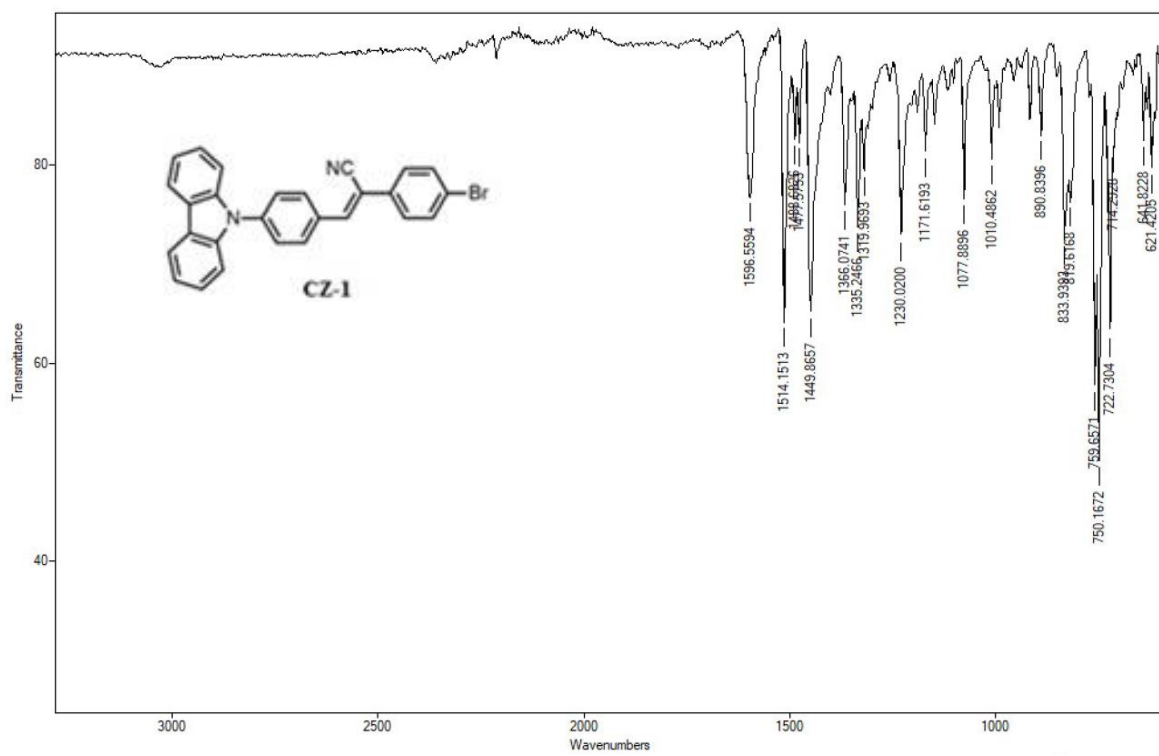
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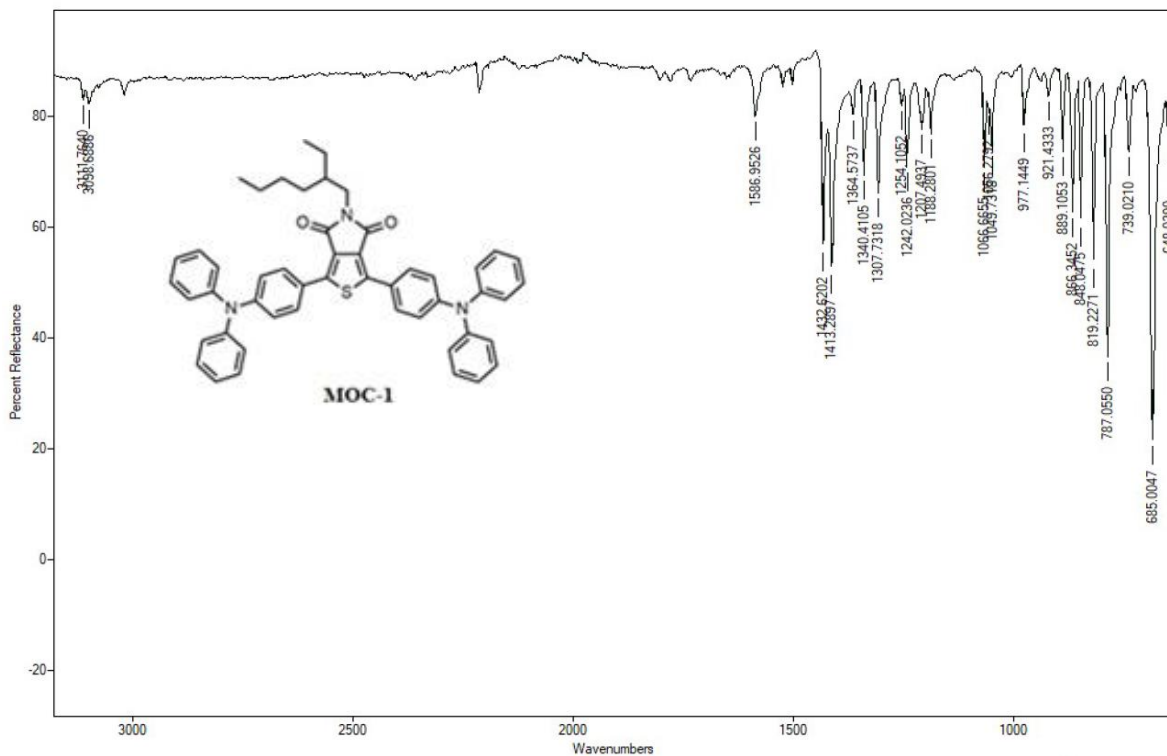
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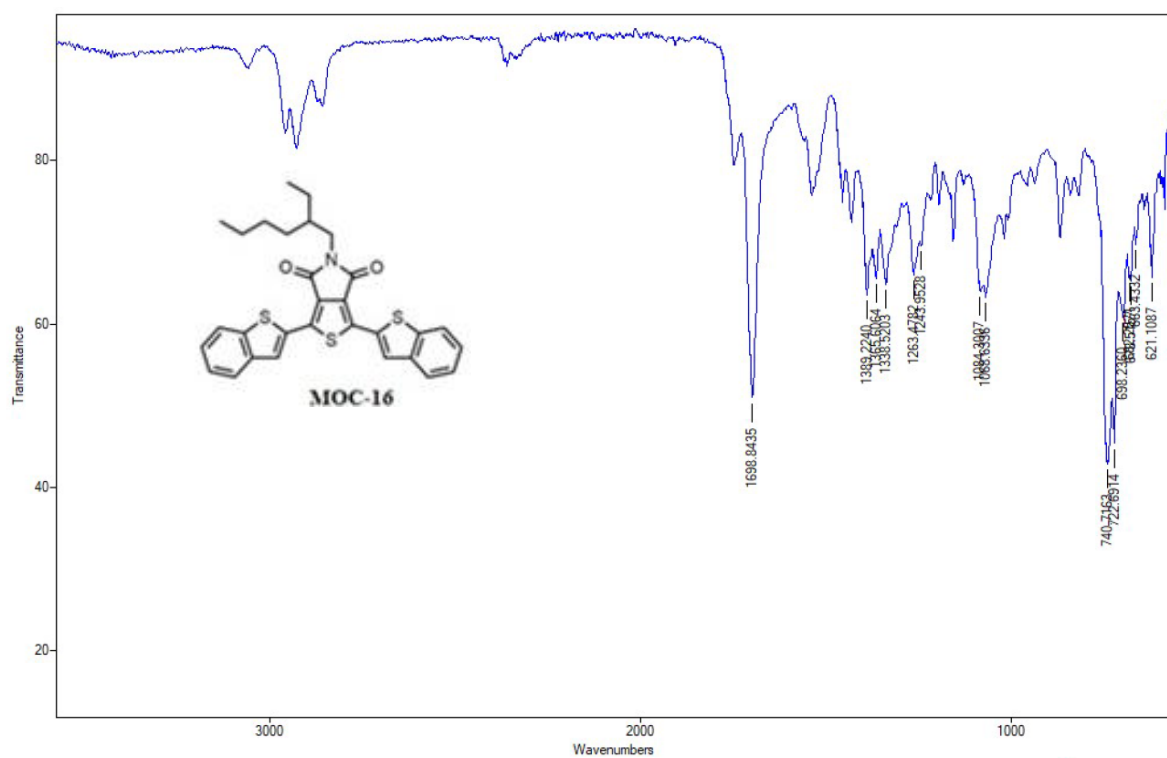
Supplementary Figure S1. IR of molecule CZ-2.



Supplementary Figure S2. IR of molecule CZ-1.

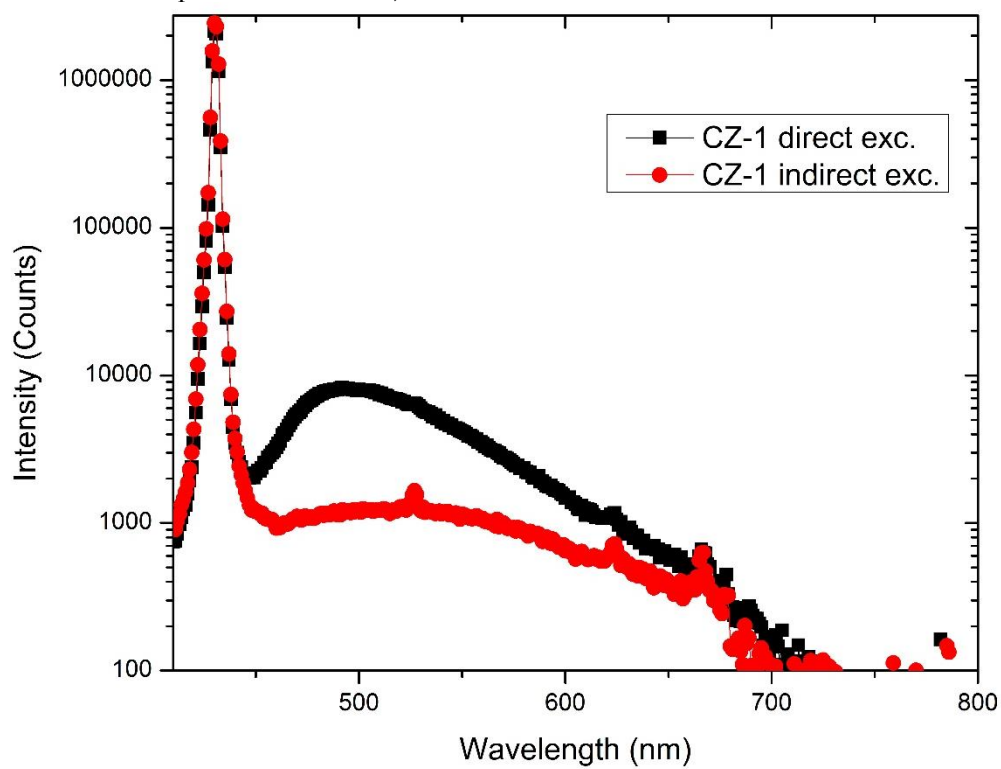


Supplementary Figure S3. IR of molecule MOC-1.

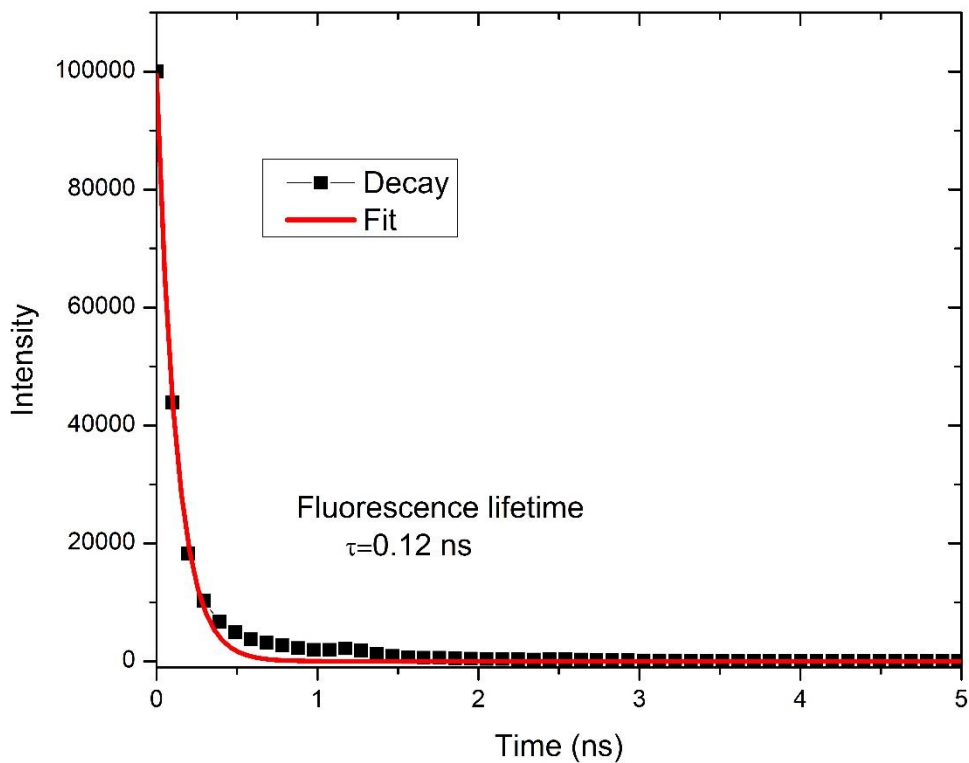


Supplementary Figure S4. IR of molecule MOC-16.

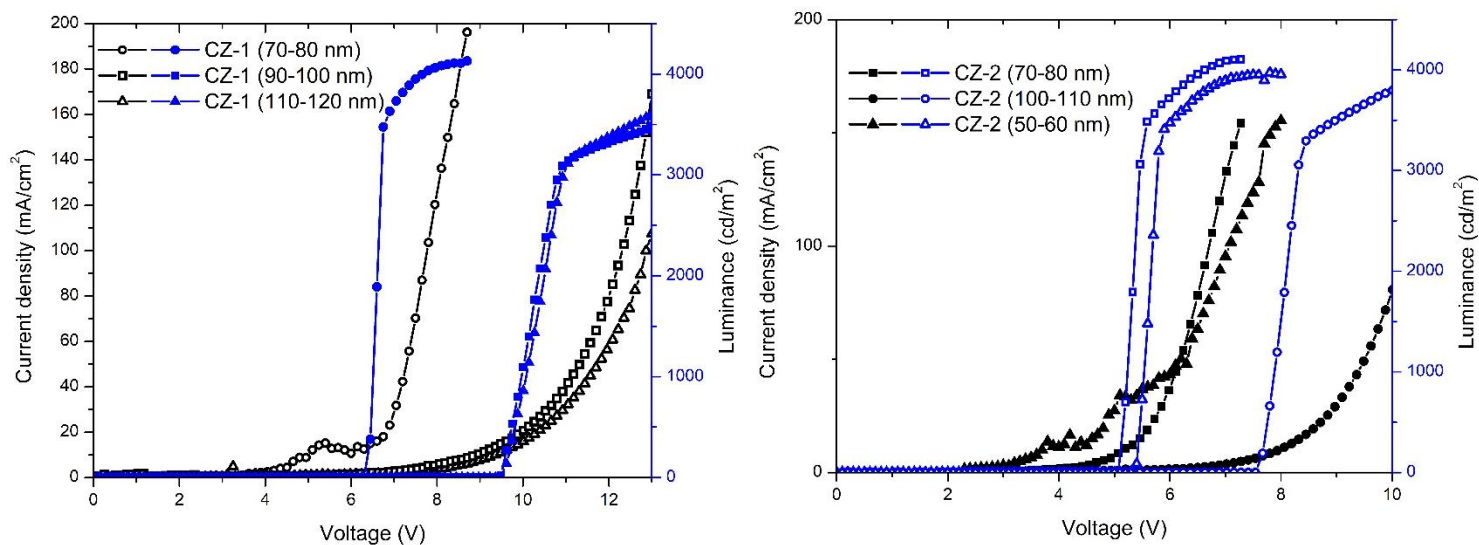
Quantum yield (QY) of **CZ-1** molecule (in solid state film) and the fluorescence lifetime (concentration of 1.11×10^{-5} mol/L) were also measured using a spectrofluorometer (Edinburgh instruments, FS5 spectrofluorometer).



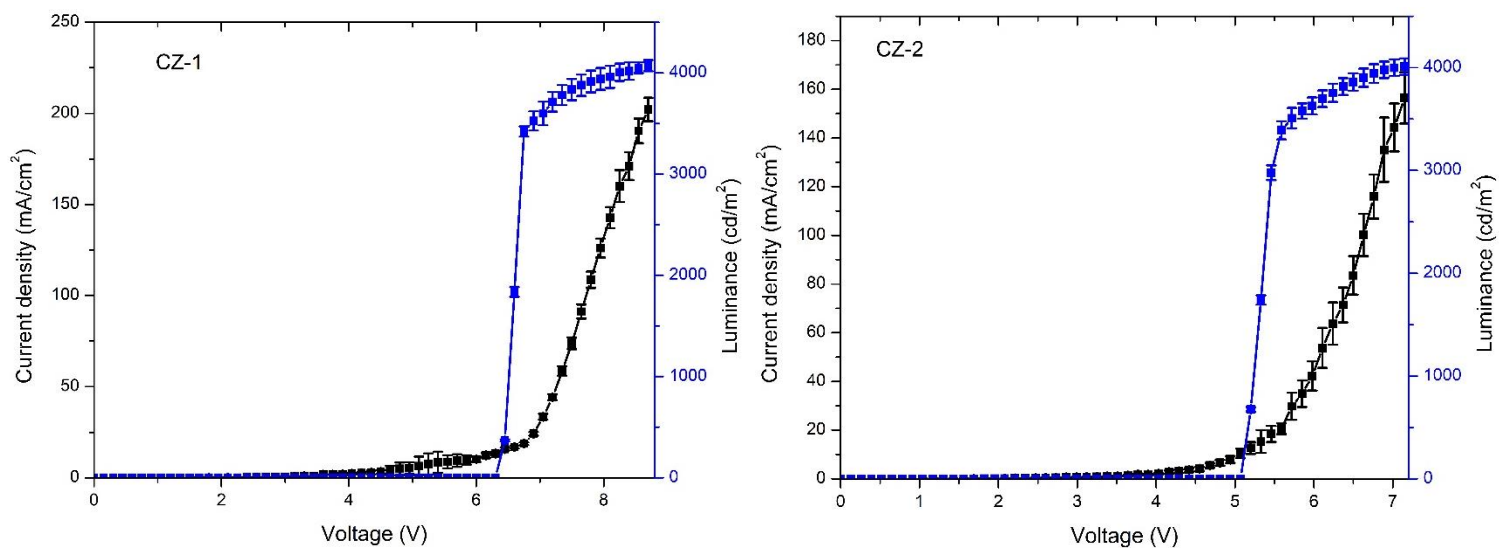
Supplementary Figure S5. Intensities with direct exc. and indirect exc. measured for **CZ-1** molecule in solid state film. PLQY = 51.9%.



Supplementary Figure S6. Fluorescence lifetime for CZ-1 molecule in solution.



Supplementary Figure S7. J-L-V curves for the best 3 OLEDs for three different thicknesses with EMLs based on CZ-1 and CZ-2.



Supplementary Figure S8. Average J-L-V curves with standar deviation/errors bars for a set of three different fabricated OLED devices (for each EML), with EMLs based on CZ-1 and CZ-2 (EML thickness: 70-80 nm)