

Electronic Supplementary Information

Novel triazine derivatives with deep LUMO energy levels as the electron-accepting components of exciplexes

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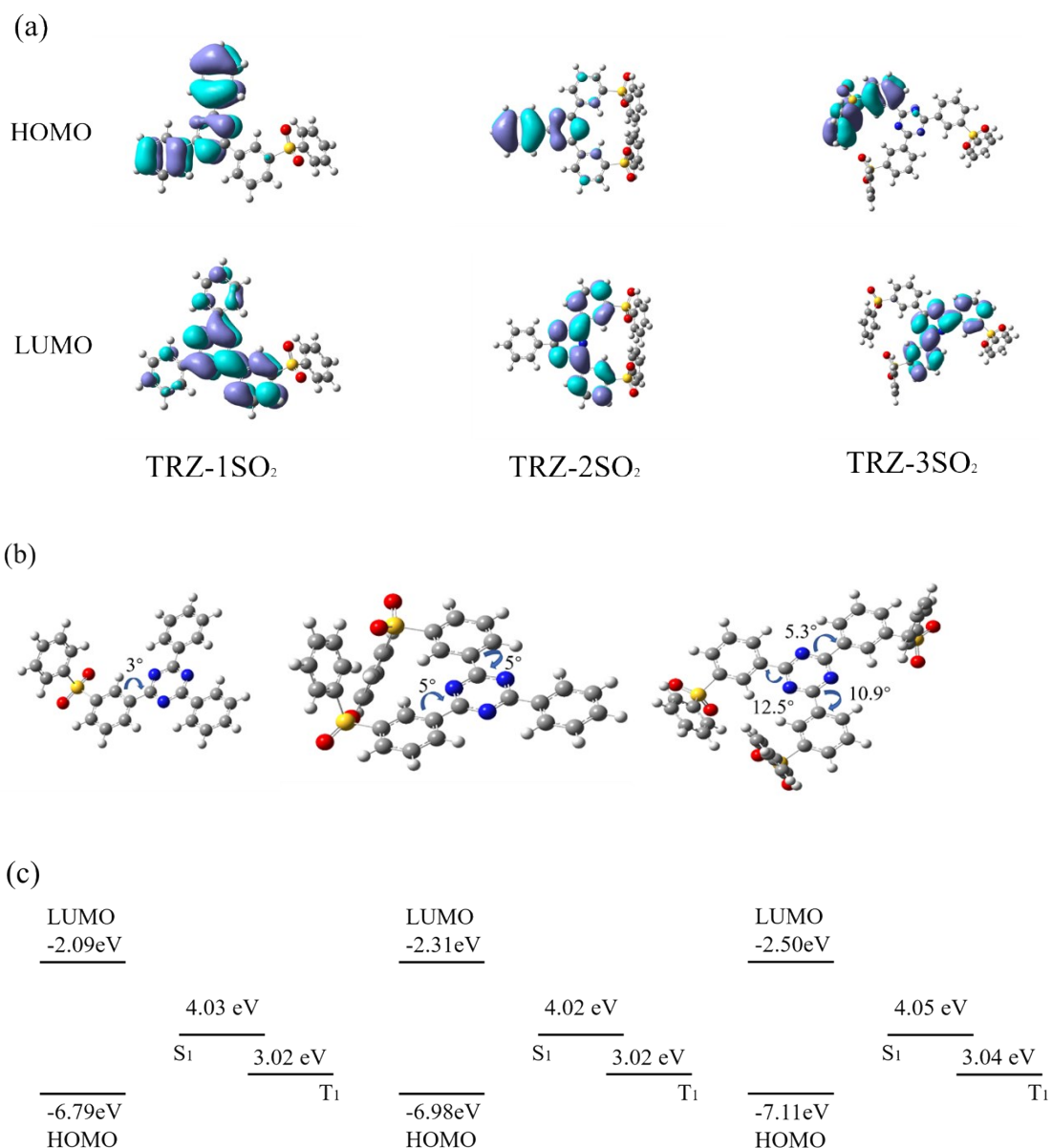


Figure S1. a) Frontier orbital distributions (HOMO/LUMO) with optimized ground state structures; b) The twisted angles between the triazine core and diphenylsulfone; c) Calculated energy levels of TRZ-1SO₂, TRZ-2SO₂ and TRZ-3SO₂.

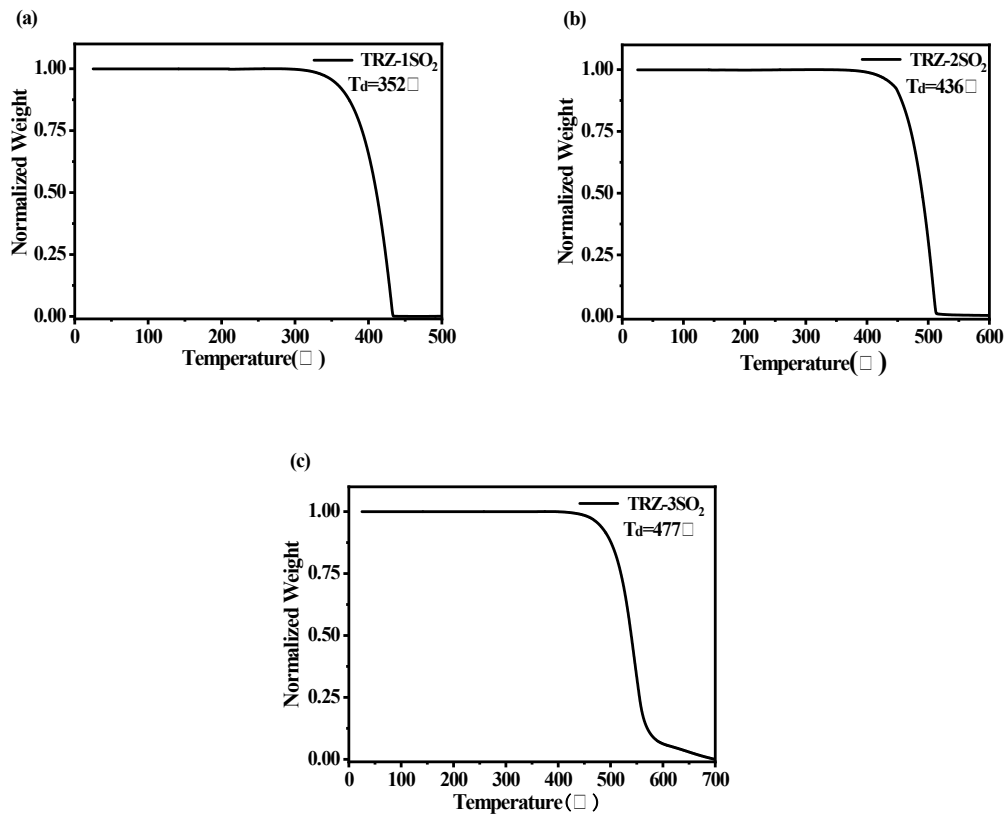


Figure S2. The TGA curves of TRZ-1SO₂, TRZ-2SO₂ and TRZ-3SO₂ (the decomposition temperatures (T_d) were estimated with 5% weight loss).

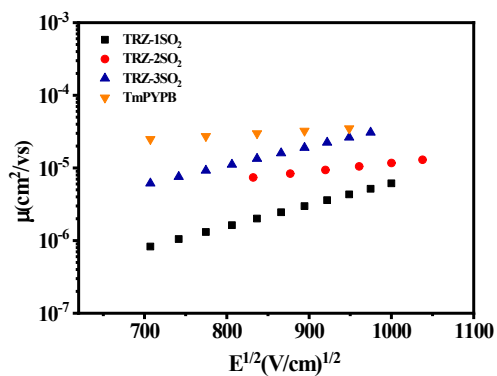


Figure S3. The electron mobilities of TmPyPB, TRZ-1SO₂, TRZ-2SO₂ and TRZ-3SO₂ plotted with respect E^{1/2}.

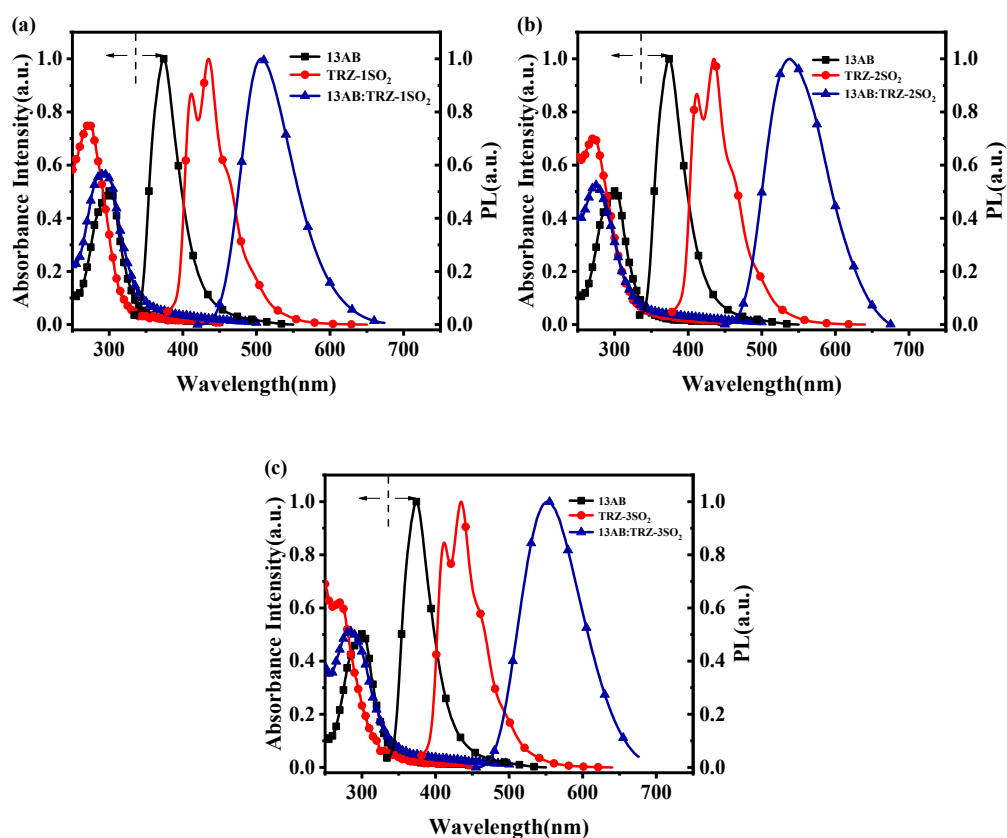


Figure S4. UV-vis absorption and photoluminescence spectra in thin films at room temperature: (a) 13AB, TRZ-1SO₂ and 13AB:TRZ-1SO₂; (b) 13AB, TRZ-2SO₂ and 13AB:TRZ-2SO₂; (c) 13AB, TRZ-3SO₂ and 13AB:TRZ-3SO₂.

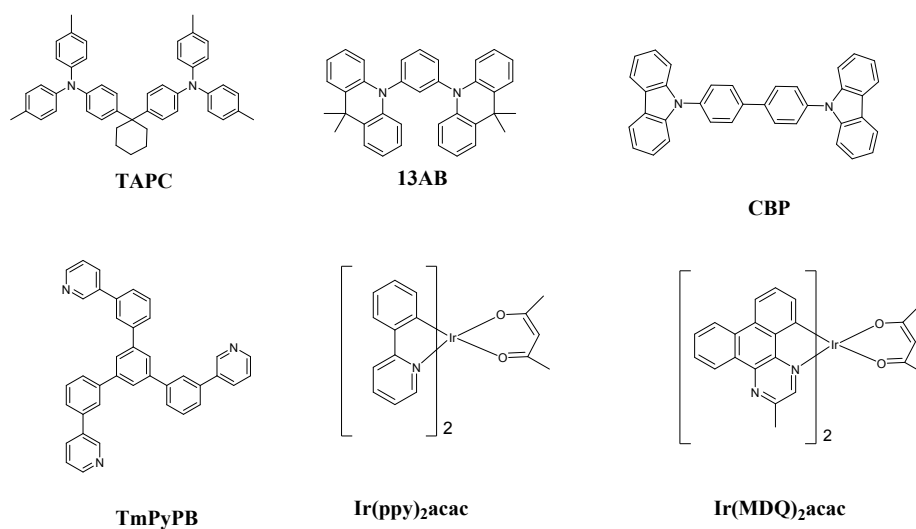


Figure S5. The molecular structures of the materials used in this work.

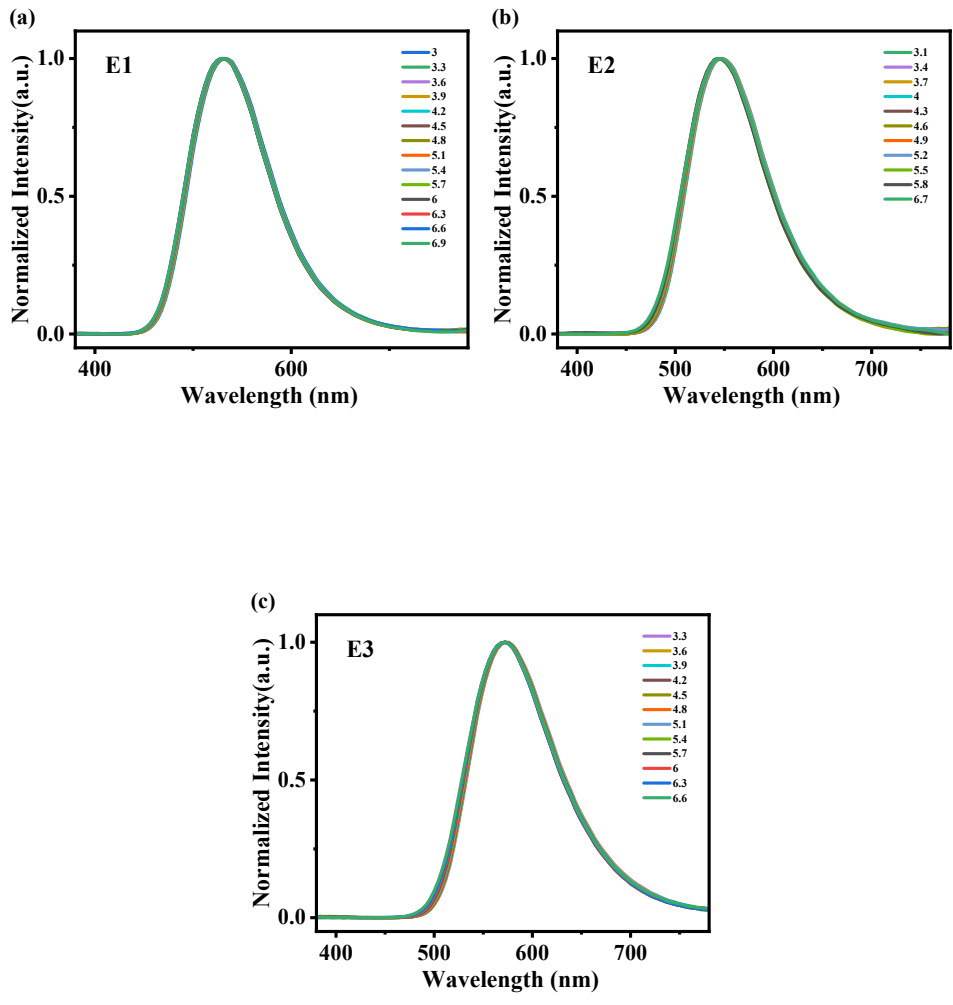


Figure S6. The EL spectra of devices E1, E2 and E3 at different voltages.

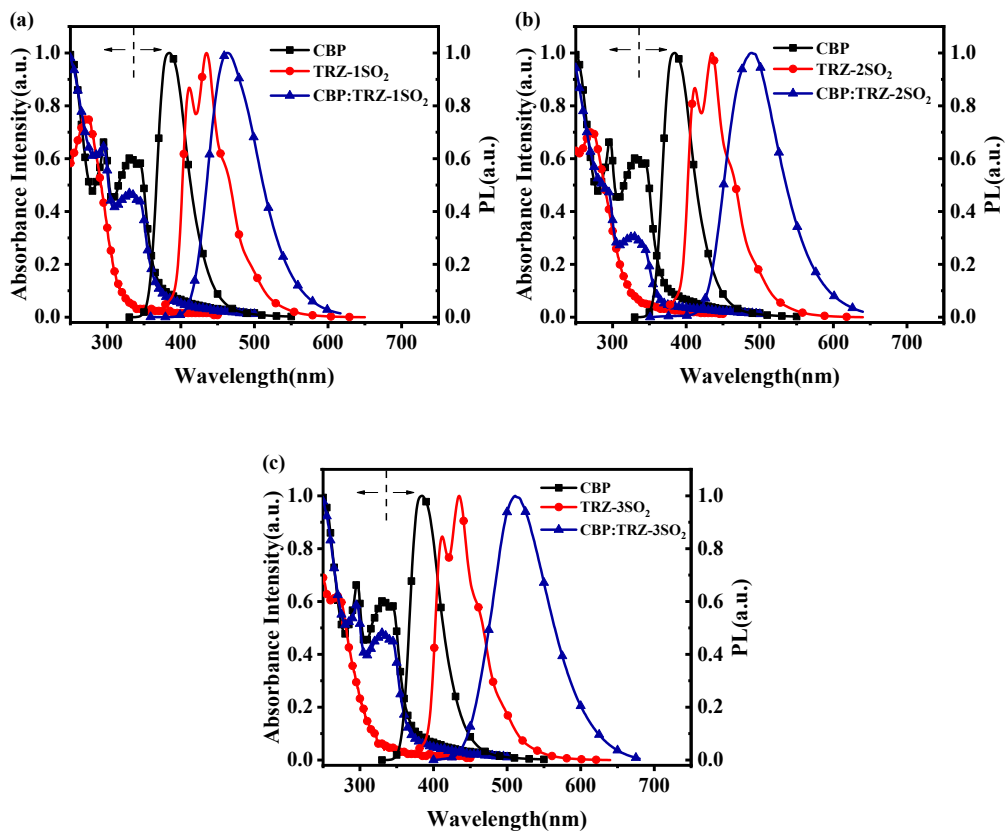


Figure S7. UV-vis absorption and photoluminescence spectra in chlorobenzene solid films at 300K : (a) CBP, TRZ-1SO₂ and CBP:TRZ-1SO₂; (b) CBP, TRZ-2SO₂ and CBP:TRZ-2SO₂; (c) CBP, TRZ-3SO₂ and CBP:TRZ-3SO₂.

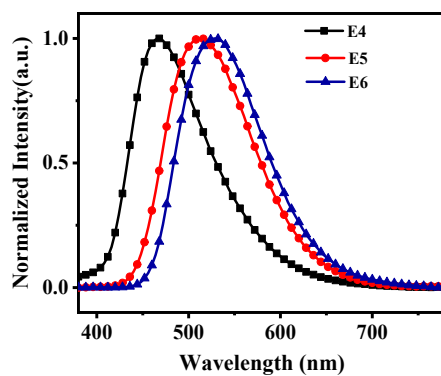


Figure S8. The EL spectra of devices E4, E5 and E6.

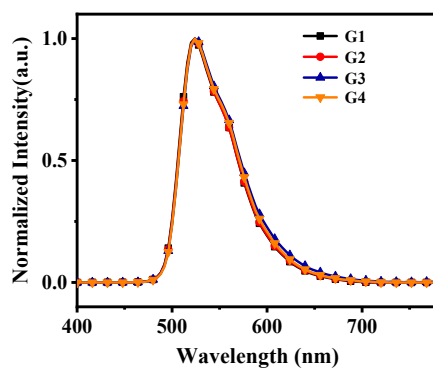


Figure S9. The EL spectra of devices G1, G2, G3, and G4.

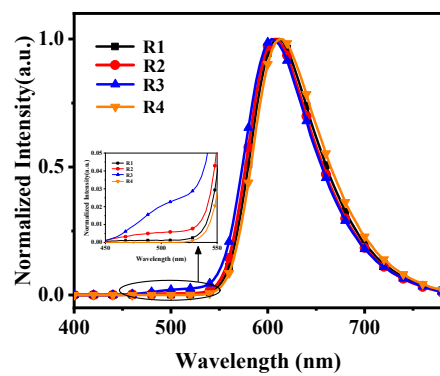


Figure S10. The EL spectra of devices R1, R2, R3, and R4. Inset: enlarged plot between 450nm and 550nm.

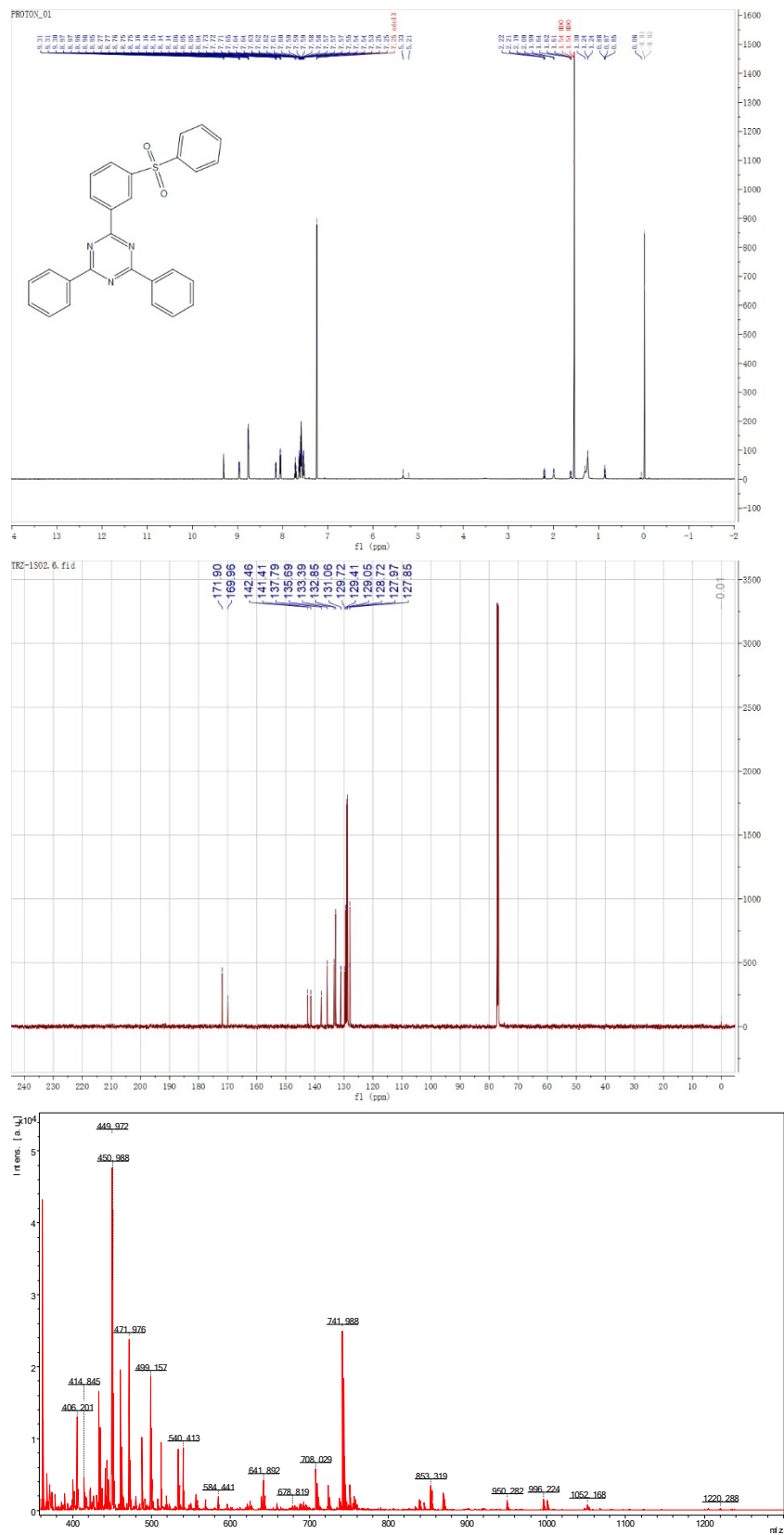


Figure S11. ^1H NMR, ^{13}C NMR and mass spectra of TRZ-1SO₂.

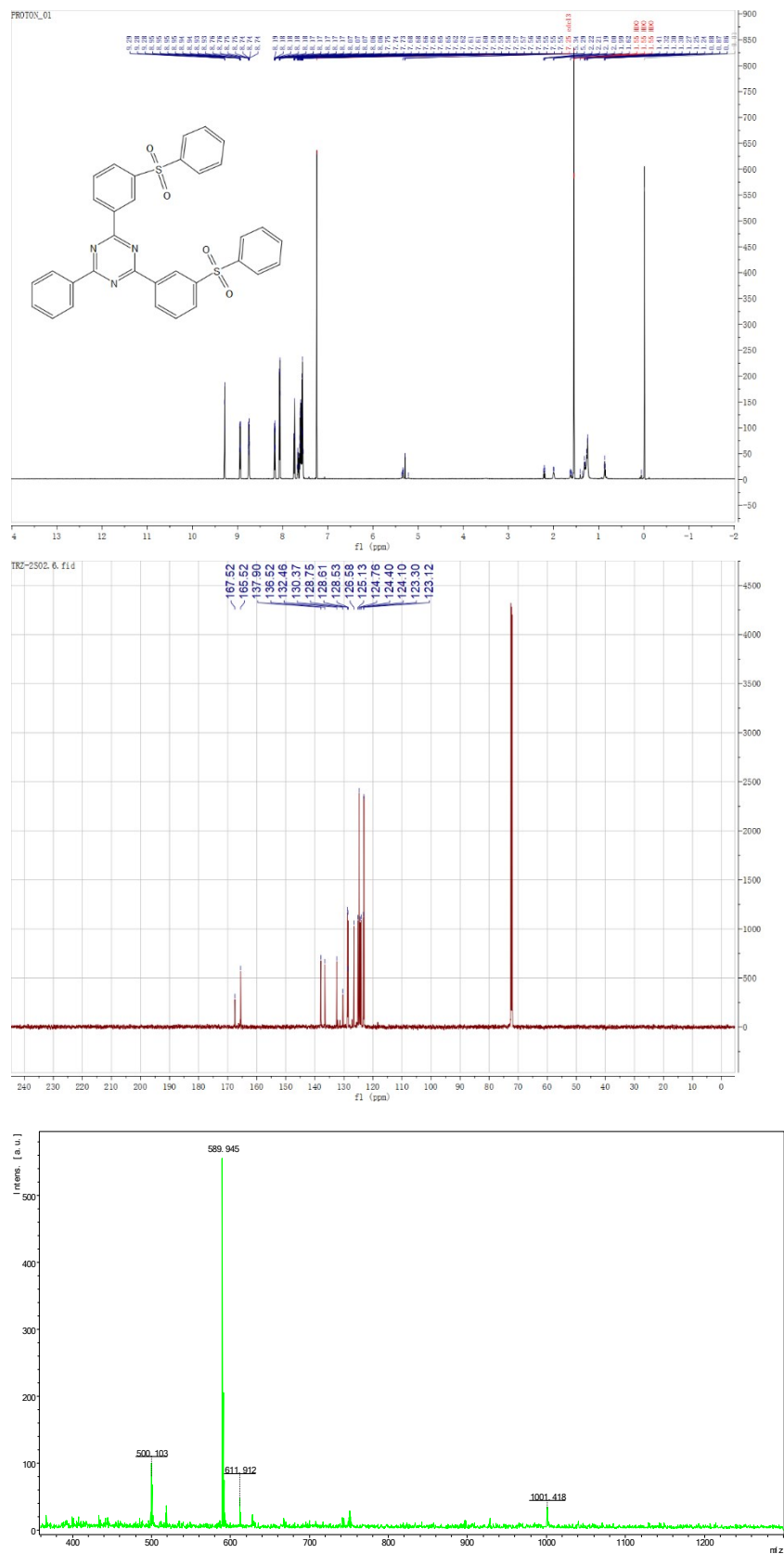


Figure S12. ¹H NMR, ¹³C NMR and mass spectra of TRZ-2SO₂.

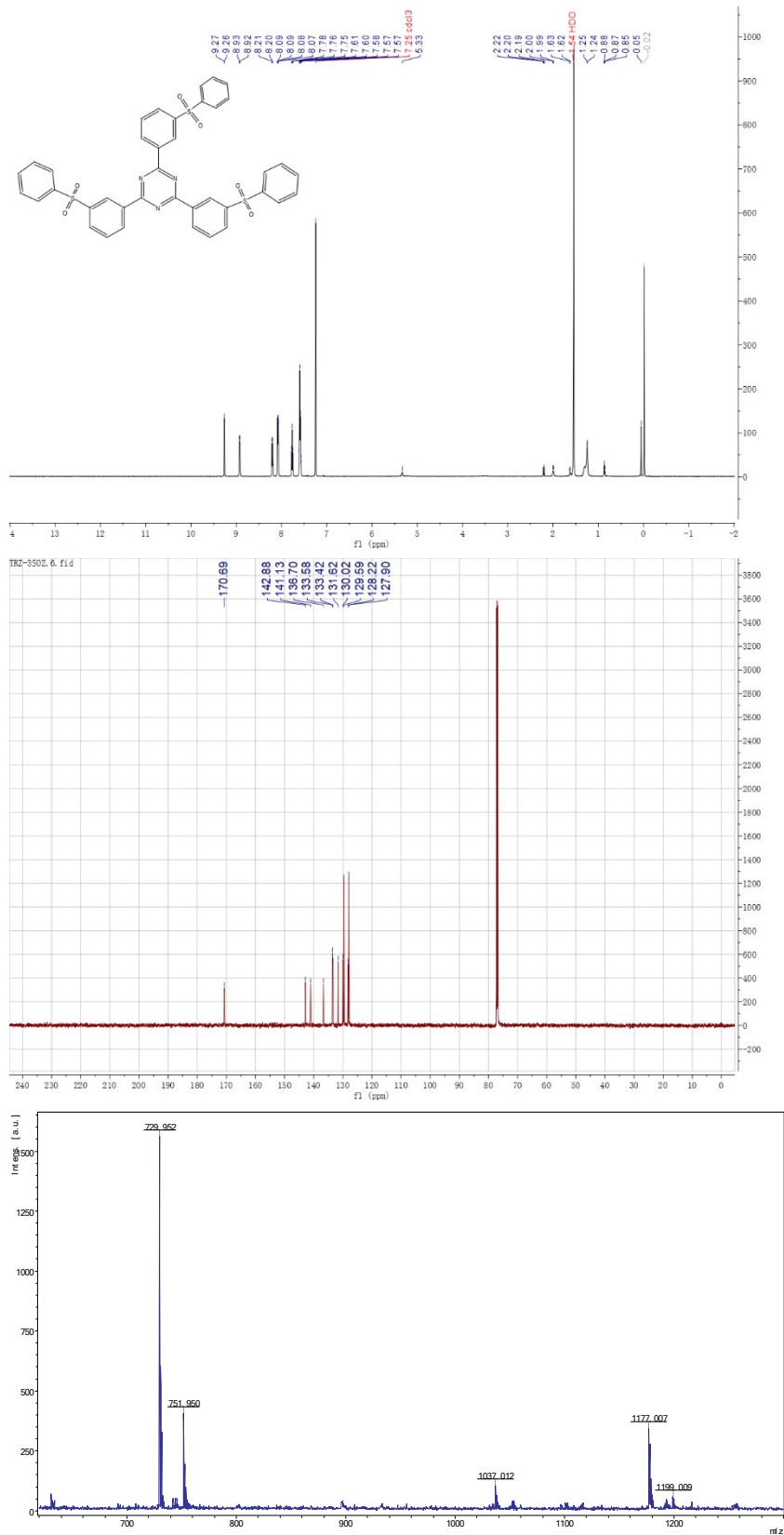


Figure S13. ¹H NMR, ¹³C NMR and mass spectra of TRZ-3SO₂.