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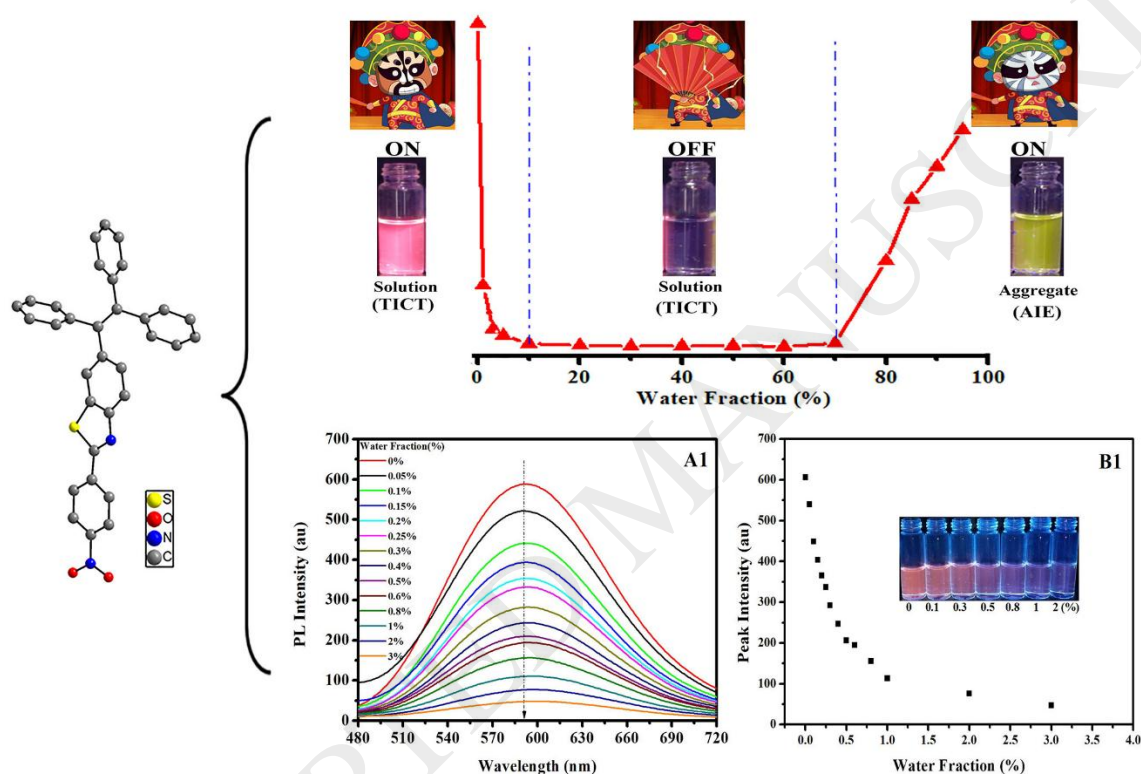
# A new AIE and TICT-active tetraphenylethene-based thiazole compound: synthesis, structure, photophysical properties and application for water detection in organic solvents

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Graphical Abstract



## Highlights

- A new AIE and TICT-active TPE-based thiazole probe TBTNO<sub>2</sub> was synthesized and characterized.
- TBTNO<sub>2</sub> exhibits extraordinary "on-off-on" optical switching property accompanied by significant emission changes.
- TBTNO<sub>2</sub> can be employed to detect water in organic solvents quantitatively and roughly.
- TBTNO<sub>2</sub> can serve as a sensitive indicator to monitor trace water content in the drying process of organic solvents approximately.

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## Abstract

A new thiazole derivative 2-(4-nitrophenyl)-6-(1,2,2-triphenylvinyl)benzo[d]thiazole (TBTNO<sub>2</sub>) based on tetraphenylethene (TPE) was designed and synthesized. The structure has been fully characterized by NMR, MS,

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