Abstract – Poster Presentation

P27

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Synthesis of A2-D2-A1-D1 type red-emitting unsymmetrical squaraine dye: Influence of additional pyridine moiety on photophysical, electrochemical, photo and thermal stability

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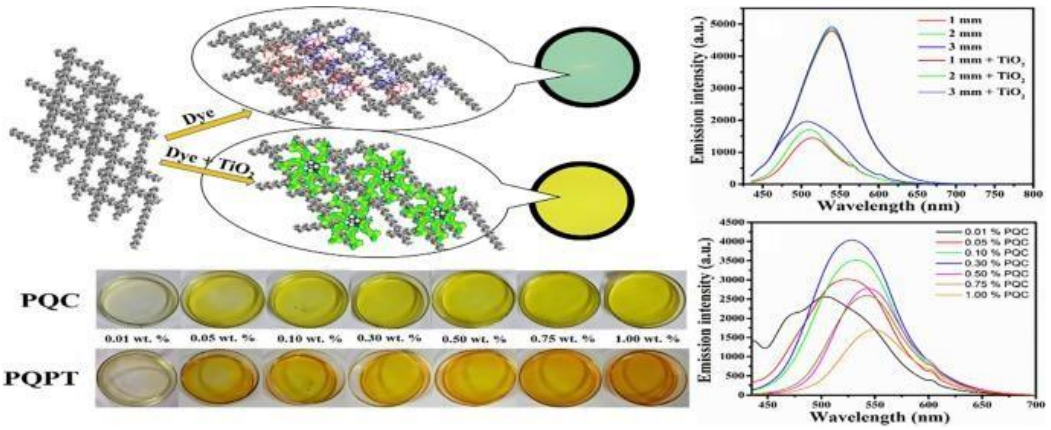
Abstract:

- ✓ This article presents two highly fluorescent donor-π-acceptor (D-π-A) moieties containing an electron-donating carbazole and phenothiazine donors fused with electron-withdrawing pyrrolo-quinoline acceptor dyes, **PQC** and **PQPT**
- ✓ We also discussed the polymerization and film-forming process of dye **PQC** and **PQPT** doped in poly (methyl methacrylate) (PMMA) and polystyrene (PS) polymer to find their optical applications in polymer-based technology.
- ✓ We investigated the fluorescent properties of dyes **PQC** and **PQPT** from 0.01 to 1 wt% in poly(methyl methacrylate) (PMMA). We also investigated the changes in the spectrum shape and shift in wavelength with changes in poly(methyl methacrylate) (PMMA), polystyrene (PS), and TiO_2 doped in polystyrene (PS/TiO_2).
- ✓ The analysis of surface morphology of prepared polymer samples was done with the help of a scanning electron microscope.
- ✓ The thermal and photostability of synthesized dyes in poly (methyl methacrylate) (PMMA), polystyrene (PS), and TiO_2 doped in polystyrene (PS/TiO_2) were investigated to get detailed information owing to the application of fluorescent polymers in the field of optoelectronic, nanohybrid coatings in solar concentrators, etc.

Figure/Scheme:



Reference:

.Jachak, M., Bhise, R., Chaturvedi, G. Shankarling,. Pyrroloquinoline Based Styryl Dyes Doped PMMA, PS, and PS/TiO2 Polymer for Fluorescent Applications. J Inorg Organomet Polym 32, 2441– 2454 (2022).