

# Butadiynyl-bridged Diphenothiazines – Redox-active Fluorophores and Self-assembly on HOPG

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Ethynyl phenothiazines are oxidatively coupled to symmetrical dumbbell-shaped butadiynyl-bridged diphenothiazines in good yields. These molecules show intense absorption bands, intense blue-green luminescence with large Stokes shifts, and reversible oxidation potentials in the anodic region. Thermally, these butadiynes do not undergo topochemical polymerization, but oligomerizations to oligomeric polycyclic heterocycles with complex structures in the melt. STM images of two representatives on HOPG (highly oriented pyrolytic graphite) show the formation of monolayers adsorbed by attractive  $\pi$ - $\pi$  interactions.

*Key words:* Alkynes, Cyclic Voltammetry, Fluorescence, Phenothiazines, STM, Self-assembly