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Synthesis and photophysical properties of water soluble phosphonic acid functionalized naphthalimide dye

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In this work, a water-soluble phosphonate containing chromophore has been designed and synthesised. The prepared compound phosphonate-naphthalimide-morpholine (**NPI-M-P2**) has been investigated for its photophysical characteristics by means of UV-Vis and fluorescence spectroscopy at different *p*H ranging from 2 to 10. Upon excitation of absorption band at 410 nm, **NPI-M-P2** exhibits strong fluorescence emission peak maxima at 565 nm. With the increase in *p*H from 3 to 9, emisison peak intensity of **NPI-M-P2** increases and displays a more intense green color.

Keywords: Naphthalimide, Phosphonic acid, Morpholine, Optical property, Fluorescence emission