

# **Synthesis of Some Vanillin Derivatives and their Use as an Optical Sensor for the Detection of Volatile Organic Compounds**

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*Abstract.* Six new dyes derived from vanillin and active methylene have been prepared and characterized using H-NMR, FT-IR spectral data. These dyes were tested for use as sensors for volatile organic compounds (VOCs namely Triethyl amine and diethyl amine). The electronic spectra of these dyes was examined and gave color depending on the acceptor groups. The compounds were tested to sense organic amines such as diethyl amine and triethyl amine, all the compounds tested gave color change from less color to deep color which can be seen by naked eye, rendering these materials to be easy, inexpensive sensor for volatile organic compounds which are basic in nature.

*Keywords:* Vanillin, Sensors, Volatile organic compounds (VOC), sensing amines.