

28<sup>th</sup> International Conference on

# CHEMISTRY & DRUG DESIGNING

December 05-06, 2018 | Vancouver, Canada

## Exploring potential of di-organotin Schiff base compounds as anti-cancer agents

**Navjot S Bath**

GHG Khalsa College, India

To explore the therapeutic potential of organotin compounds, Biogenic  $\alpha$ -amino acids were utilized for *in-situ* generation of chiral Schiff base on di-butyltin oxide template conceiving six 1-6 optically pure organotin (IV) compounds. 1-6 were isolated, characterized by FTIR, NMR (<sup>1</sup>H, <sup>13</sup>C, <sup>119</sup>Sn) spectroscopy, mass spectrometry and elemental analyses. Single crystal X-ray diffraction of 1, 4 and 6 confirmed the monomeric structure in solid state, 1 and 4 were found to be enantiomerically pure contrary to 5, which crystallized in form of enantiomeric pair. In photophysical experiments, 1-6 emitted blue-violet fluorescence emission when excited by UV-radiation of wavelength 365 nm. The treatment of HeLa cell lines with different proportions of 1-6 revealed the compounds to be highly effective anti-cancer probes possessing high toxicity. The fluorescent nature of 1-6 prompted their use as potential bio-imaging agents. Confocal fluorescent microscopy of HeLa cells revealed the uptake of 1-6 inside HeLa cells, with higher concentrations were found in cytoplasm. The biological potential of these diorganotin compounds showed encouraging results as their therapeutic affects rival cisplatin.

**Keywords:** Amino acids, organotin, Schiff base, fluorescent bioimaging, biogenic ligand, chiral Schiff base.

### Biography

Navjot Singh Bath resides in Panjab, India. He is currently working as assistant professor in chemistry in the department of chemistry, GHG Khalsa College Gurusar Sudhar. His research interests include synthesis of organotin and organosilicon compounds and exploration of their diverse possible applications.

navsinghbatth@outlook.com

Notes: