Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500107

Internal Seminar

Synthesis of peptide thioester precursor having C-terminus solubility tag

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Peptide thioesters are essential components for native chemical ligation of two unprotected peptide segments. However, direct chemical synthesis of peptide thioesters using α/β-mercapto carboxylic acid is not compatible with standard Fmoc solid phase peptide synthesis (SPPS) method. There are reports where peptide hydrazide and peptide amide of diaminobenzoic acid (Dbz) have been used as thioester precursors. Post-synthetic conversion of these precursors generates thioesters. However, these precursors have their own limitations and cannot be utilized for the synthesis of hydrophobic peptides, which requires conjugation of a solubility tag at the C-terminus. We have developed an improved and straightforward protocol for the synthesis of peptide thioester having universal applicability. The general utility of this method is being demonstrated by total chemical synthesis of a hydrophobic model micro-protein 'Crambin' of plant origin.

Tuesday, Sep 4th 2018

2:30 PM (Tea/Coffee at 2:00 PM)

Seminar Hall, TIFR-H