

Internal Webinar

Effect of the Position of Geminal Di-Substitution of γ Amino Acid Residues on their Conformational Preferences

Swapna Debnath

IIT, Guwahati

In this talk, I will discuss the background literature and the main objective, followed by the outcome of my doctoral research.

The use of unnatural amino acid residues has been a very powerful tool employed in the area of peptidomimetics to generate peptides with natural peptide-like folding abilities and improved resistance toward proteolytic degradation. In this thesis, three geminally di-substituted gamma amino acids, $\gamma^{x,x}$ ($x,x=2,2/3,3/4,4$), have been synthesised and incorporated into model α peptides, which have a high tendency to adopt different classes of secondary structures like helix, isolated non-helical β -turn mimic, β -hairpin etc. We studied the effect of the differential backbone substitution leading to differential backbone constraint and compared its effect on conformational preferences and the self-assembly behaviour of these Fmoc derivatives /peptides.

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