

Jayamurugan, G.; Jayaraman, N., 2006, "Synthesis of large generation poly(ether imine) (PETIM) dendrimers", *Tetrahedron*, 62, 9582 – 9588.

We earlier undertook a programme to identify a new type of monomer, namely, 3-amino propan-1-ol, as an useful monomer for the synthesis of poly(ether imine) dendrimers. From early studies, we had reported the synthesis of lower generation dendrimers, up to three generations, having 16 peripheral functionalities. The facile synthetic methods identified for lower generation dendrimers were tested for the synthesis of larger generation dendrimers. These efforts have shown that the iterative synthetic methods are efficient to synthesize larger generation dendrimers. We have accomplished synthesis up to six generations, having 128 peripheral functionalities in the largest generation. The efficient synthetic method and characterizations were fully established at present to synthesize this new class of dendrimers. In terms of structural features, the PETIM series of dendrimers could be considered along with other two most popularly used dendrimers, namely, poly(amido amine) (PAMAM) and the poly(propylene imine) (PPI) dendrimers, for reasons that: (i) the amide linkage in PAMAM dendrimers is replaced with an ether linkage in PETIM dendrimers and (ii) all three dendrimers possess a tertiary amine as the branching functionality.