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# Self-assembly of renewable nano-sized triterpenoids

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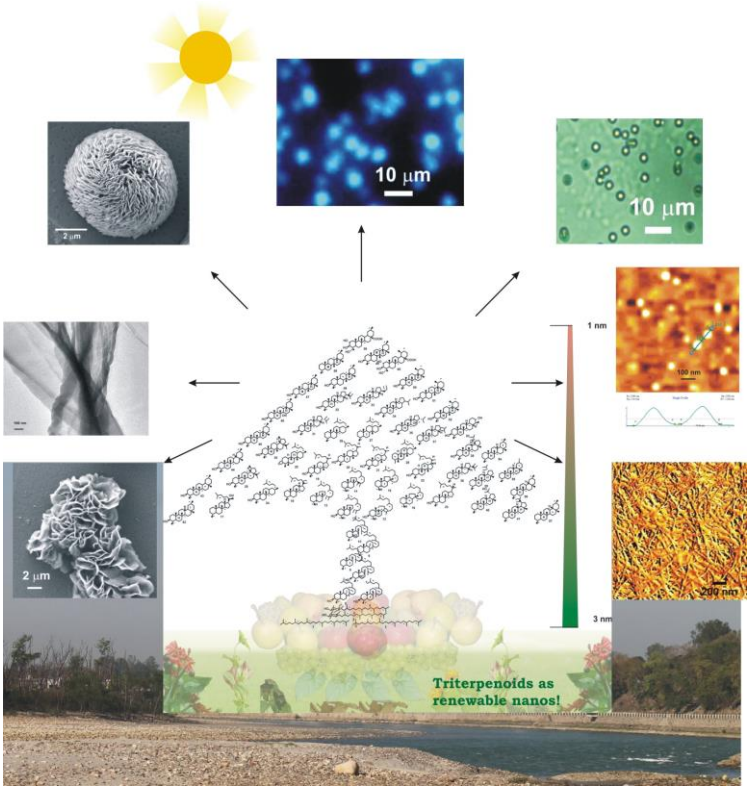
**Abstract:** Plant metabolites may serve as a significant renewable alternative to fossil and petroleum resources for a sustainable future. Among various plant secondary metabolites, terpenoids constitute the most numerous and structurally diverse group of natural products having more than 300 ring systems. Computations carried out by us on sixty representative triterpenoids have revealed that all the triterpenoids are nanometer long having varied rigid and flexible lengths (Figure 1).[1-2] The triterpenoids isolated from plants such as arjunolic, betulinic, oleanolic, glycyrrhetinic and ursolic acids and betulin self-assembled in the liquids at low concentrations affording self-assembled nano- to micro-sized architectures such as helical fibers, vesicles, spheres, etc. The self-assemblies were capable entrapping fluorophores including the anticancer drug doxorubicin. Recent results will be presented in the perspective of green, renewable and nanos.

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2. R. Majumdar, S. Tantayanon, B.G. Bag, *Chem. Asian J.*, 2016, 2406-2414.

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