

# Past and Present Research Systems of Green Chemistry

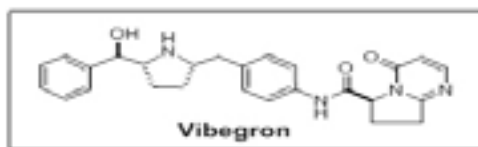
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## Green by design for process evolution: Asymmetric syntheses of vibegron

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Vibegron is a potent and selective beta-3 adrenergic receptor agonist and a drug candidate currently in clinical trials for the treatment of overactive bladder. In addition to the initial discovery chemistry route, two generations of asymmetric syntheses of vibegron are described in this presentation. The evolution of the two asymmetric routes suitable for the large scale preparation of vibegron is driven by the desire to develop a greener chemistry through the design of efficient chemical transformations/bond connections as well as process optimization. In comparison with the 1st generation route, the 2nd generation synthesis also reduces the manufacturing cost significantly.



### Biography

Feng Xu obtained his PhD at Shanghai Institute of Organic Chemistry (SIOC), Chinese Academy of Sciences in 1989 where he worked on the total synthesis of complex natural products. He joined SIOC before moving to USA. After that he undertook a Postdoctoral fellow with Professors Martin Kuehne and James Dittami, and completed the total syntheses of several complex Indole alkaloids, he joined Merck Process Research Department in 1996.

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