

Generative Artificial Intelligence in the context of drug discovery

Langevin, M.,^{1,2,3} Bianciotto, M.,² Mi, K.,² Minoux, H.,²

*Langevin M

¹maxime.langevin@sanofi.com

²Sanofi Aventis R&D, 13 quai Jules Guesde, 94400, Vitry-sur-Seine, France

³Département de physique-chimie théorique, Ecole Normale Supérieure, 24 rue Lhomond, 75005, Paris, France

Since a few years, deep learning and generative artificial intelligence applied to medicinal chemistry has generated a strong interest. Although many promises have been made by this technology, there is yet to cross the gap from proof-of-concepts to real-life applications. Here, we compare two of the most studied generative models for chemistry in the literature, Variational-Auto Encoders and Recurrent Neural Networks, with regard to their performance in the setting of industrial drug discovery.

Bibliography:

[1] Gomez-Bombarelli R. et al. *ACS Cent. Sci.*, 2018,4, 2, 268-276

[2] Olivecrona, M. et al. *Journal of Cheminformatics* 2017,9, 48