Abstract Submitted
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A nanojet: propulsion of a molecular machine by an asymmetric distribution of reaction–products[1] TANNIEMOLA LIVERPOOL, University of Leeds, U.K. , RAMIN GOLESTANIAN, University of Sheffield, U.K., ARMAND AJDARI, ESPCI, Paris, France — A simple model for the reaction-driven propulsion of a small device is proposed as a model for (part of) a molecular machine in aqueous media. Motion of the device is driven by an asymmetric distribution of reaction products. We calculate the propulsive velocity of the device as well as the scale of the velocity fluctuations. We also consider the effects of hydrodynamic flow as well as a number of different scenarios for the kinetics of the reaction.

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