

## ENERGY CONSUMPTION IN CHEMICAL-FUEL DRIVEN SELF-ASSEMBLY

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Nature extensively exploits high-energy transient self-assembly structures that are able to perform work through a dissipative process. Often, self-assembly relies on the use of molecules as fuel that is consumed to drive thermodynamically unfavourable reactions away from equilibrium. Implementing this kind of non-equilibrium self-assembly process in synthetic systems is bound to profoundly impact the fields of chemistry, materials science and synthetic biology, leading to innovative dissipative structures able to convert and store chemical energy.

Here, we present a conceptual insight in the design of chemical-fuel driven processes and illustrate experimental approaches.

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