

Supplementary Information: Self-propulsion of liquid droplet assemblies controlled by the functionalities of their components

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February 14, 2025

Decanol self-propulsion

Figure S1 shows the self-propulsion of a droplet of 1-decanol placed on the surface of pure water [Fig. S1(a)]. The motion was not regular as seen in its trajectory shown in Fig. S1(b). The speed of the droplet was 0.1 mm/s when averaged over 5 hours.

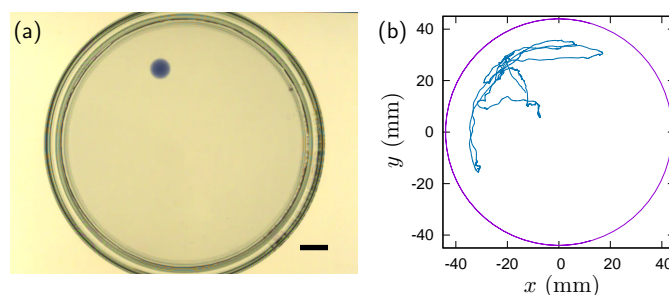


Figure S1: Self-propulsion of a decanol droplet on water. When a droplet of 1-decanol is placed on the surface of pure water (a), it self-propels. (b) The trajectory of the decanol droplet shown in (a) for 1 h. The scale bar is 10 mm.

List of movies

In the list, PDMS stands for polydimethylsiloxane and ES stands for ethyl salicylate.

- mov1: An experiment where a decanol droplet and an ES droplet were placed on the water surface. 50 times accelerated.
- mov2: A process of pairing and propulsion as a pair seen in the simulation.
- mov3: A stable circular motion of a pair between decanol and ES-PDMS droplets. 50 times accelerated.
- mov4: Two decanol droplets with an ES-PDMS droplet. 50 times accelerated.
- mov5: Three decanol droplets with an ES-PDMS droplet. 50 times accelerated.
- mov6: Four decanol droplets with an ES-PDMS droplet. 50 times accelerated.
- mov7: Five decanol droplets with an ES-PDMS droplet. 50 times accelerated.
- mov8: Six decanol droplets with an ES-PDMS droplet. 50 times accelerated.