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Supporting Information for the article:

"Propulsion and energetics of a minimal magnetic microswimmer"

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As supporting information for the article, we provide:

1) one file in .pdf which describes the Python script to calculate the different coefficients of the analytical model for the velocity $V(b_1; a_0; a_2; a_4)$ and the efficiency $e(n_2, d_2, d_4, d_6)$.

2) Two videoclips (.AVI) from the experimental data as support of the main text:

- i) VideoS1(.AVI) This videoclip shows the dynamics of nanorod-colloid micropropeller driven by a swinging magnetic field with frequency v = 20Hz, and amplitudes $B_x = 2.15$ mT and $B_y = 2.74$ mT. The video has been recorded at 504 frame per second (fps) and corresponds to Fig.2(a) of the manuscript.
- ii) VideoS2(.AVI) This video shows the propulsion of a micropropeller characterized by a longer nanorod (6 micron) driven by a swinging magnetic field with frequency v = 10Hz, and amplitudes $B_x = 2.15$ mT and $B_y = 1.3$ mT. The video has been recorded at 504 frame per second (fps) and corresponds to Fig.4 of the manuscript.