

# Supporting Information

## Photocatalytic Micro/Nanomotors: from Construction to Applications

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**Table S1** Typical examples of photocatalytic micro-/nanomotors

PMNMs	Wavelength (nm)	Intensity	Fuels	Concentrations	Maximum velocities ( $\mu\text{m/s}$ )	Mechanism	Refs.
TiO <sub>2</sub> -Au Janus Micromotors	330~380	0.04 W/cm <sup>2</sup>	H <sub>2</sub> O	/	25	Self-electrophoresis	1
JHP-TiO <sub>2</sub> -Au microswimmers	365	0.0097~0.0155 W/cm <sup>2</sup>	H <sub>2</sub> O	/	9.2	Self-electrophoresis	2
TiO <sub>2</sub> -Au nanocaps-like motors	Halogen spectrum	/	H <sub>2</sub> O	/	/	Self-electrophoresis	3
TiO <sub>2</sub> -Pt Janus submicromotors	368	0.1~1 W/cm <sup>2</sup>	H <sub>2</sub> O	/	21	Self-electrophoresis	4
Si-Au micromotors	>380	0.004-0.0136 W/mm <sup>2</sup>	H <sub>2</sub> O	/	~5	Self-electrophoresis	5
Au-WO <sub>3</sub> @C Janus Micromotors	340~380	0.0025~0.04 W/cm <sup>2</sup>	H <sub>2</sub> O	/	16	Self-diffusiophoresis	6
TiO <sub>2</sub> -{Mo <sub>7</sub> }-Au nanomotor	510-590	1200~30000 Lux	H <sub>2</sub> O	/	~10	Self-diffusiophoresis	7
BiOI-Au Janus micromotor	450~560	100~43 900 Lux	H <sub>2</sub> O	/	2.1	Self-electrophoresis	8
Si nanowire	500~800	0.003~0.1 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	0.5%	37.5	Self-electrophoresis	9

TiO <sub>2</sub> -Si nanotree	365	0.1 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	0.1%	3.7	Self-electrophoresis	10
Am TiO <sub>2</sub> -Au Janus micromotors	368	0.2 ~0.8W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	0.1%~15%	102	Bubble-driven	11
TiO <sub>2</sub> microengines	368	0.2 ~1 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	1%~15%	264	Bubble-driven	12
Isotropic TiO <sub>2</sub> micromotors	365	0.1 ~1 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	0.001%~0.66%	13	Self-diffusiophoresis	13
Cu <sub>2</sub> O-Au Janus micromotors	>380	0.58~1.36 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	0.1%~3%	6	Self-electrophoresis	14
Peanut-like Fe <sub>2</sub> O <sub>3</sub>	435~475	/	H <sub>2</sub> O <sub>2</sub>	1%~10%	1.84	Self-diffusiophoresis	15
TPM- Fe <sub>2</sub> O <sub>3</sub>	430~490	/	H <sub>2</sub> O <sub>2</sub>	0.1%~3%	15	Self-diffusiophoresis	16
Au-B-TiO <sub>2</sub> Janus micromotors	>400	2.1 ~20.4 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	0.03%~3%	~30.1	Self-electrophoresis	17
	360~370	1.14W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	3 %	~27.5		
Au-Fe <sub>3</sub> O <sub>4</sub> nanomotors	>380	0.3~3.3 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	0.005%~5%	~30	Self-electrophoresis	18
ZnO-Pt microrocket	340~380	0.0043~0.077 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	2%~10%	471	Bubble-driven	19

TiO <sub>2</sub> -SiO <sub>2</sub> Janus particles	365	0.03~0.32 W/cm <sup>2</sup>	H <sub>2</sub> O <sub>2</sub>	2%	Up/down	Self-diffusiophoresis	20
Pt-g-C <sub>3</sub> N <sub>4</sub> based micromotor	320	0.1~1.2 W/cm <sup>2</sup>	CH <sub>3</sub> OH	0.1 M	23	Self-diffusiophoresis	21
TiO <sub>2</sub> -Au Janus Micromotors	330~380	0.005~0.04 W/cm <sup>2</sup>	MB	10 <sup>-8</sup> ~10 <sup>-1</sup> g/L	43.41	Self-electrophoresis	22
			CR	10 <sup>-8</sup> ~10 <sup>-1</sup> g/L	36.31		
			MO	10 <sup>-8</sup> ~10 <sup>-1</sup> g/L	35.15		
TiO <sub>2</sub> -Si nanotree	~450	0.15~0.35 W/cm <sup>2</sup>	D5	0.5 mM	~6.2	Self-electrophoresis	23
	~510		N719	0.5 mM	~3.6		
	~610		SQ2	0.5 mM	~3.0		

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