

Materials List for:

Construction and Operation of a Light-driven Gold Nanorod Rotary Motor System

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Materials

Name	Company	Catalog Number	Comments
Gold nanoparticles			Purchased or home-grown
Commercial inverted microscope	Nikon	Eclipse TI	
Trapping laser	Cobolt	Flamenco 05-01	660 nm
Objective	Nikon	CFI Plan Apo Lambda 40X	
Laser safety goggles	Thorlabs	LG4	
Assorted optomechanical components for mounting optics.			A range of mounts, posts and components from any company
Lens 1 Keplarian telescope	Thorlabs	AC254-035-A-ML	
Lens 2 Keplarian telescope	Thorlabs	LA1725-A-ML	
Silver coated mirrors	Thorlabs	PF10-03-P01	
Kinematic mirror mounts	Thorlabs	KM100	
Translation stage	Thorlabs	PT1/M	Quantity: 2
50/50 R/T Beamsplitter	Chroma	21000	
CMOS camera	Andor	Zyla 5.5	
Quarter waveplate (QWP, $\lambda/4$)	Thorlabs	AQWP05M-600	
Power meter	Thorlabs	PM100USB	
Photodiode Power Sensors	Thorlabs	S121C	
Linear polarizer	Thorlabs	LPVIS050	For laser polarization measurement
360° rotation mount	Thorlabs	RSP1/M	
Half waveplate (HWP, $\lambda/2$)	Thorlabs	AHWP05M-600	Used if polarization is not sufficient with only QWP
Oil DF condenser	Nikon	C-DO Dark Field Condenser Oil	
30/70 R/T Beamsplitter	Chroma	21009	
Fast Si detector	Thorlabs	PDA36A-EC	
Data Acquisition Module	National Instruments	USB-6361	
Fiber 400 μm core size	Thorlabs	M74L01	
xy-translation mount	Thorlabs	LM1XY/M	
Linear polarizer	Thorlabs	LPVIS050	
Spectrometer	Princeton Instruments	IsoPlane SCT320	
CCD camera for spectrometer	Princeton Instruments	PyLoN	
Notch filter	Semrock	NF03-658E-25	
Notch filter	Thorlabs	NF658-26	
Ultrasonic cleaner bath	Branson	Branson 3510	
Microscope slide	Ted Pella	260202	

No. 1.5 Coverslips	VWR	630-2873	
Aceton			
Isopropanol			
Basic detergent	Hellma	Hellmanex III	Cleaning if particle sticking is an issue
Secure-Seal Spacer	Thermo Fisher	S24735	Spacer tape with hole, for making sample cell
Immersion Oil	Zeiss	444960-0000-000	
PS beads	Microparticles GmbH	PS-R-5.0	
Spectrophotometer	Agilent	Cary 5000 UV-Vis-NIR	
SEM	Zeiss	Ultra 55 FEG SEM	
Tweezers			Any brand