

Materials List for:

Luminescence Lifetime Imaging of O₂ with a Frequency-Domain-Based Camera System

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Materials

Name	Company	Catalog Number	Comments
Air pump with air stone and water pump	Local aquarium store		
Chloroform	Sigma Aldrich	67-66-3	
DC4 silicone compound	Dow Corning GmbH	2793695	
Gas mixer	Vögtlin Instruments GmbH	red-y compact meter GCM	This is just one possible instrument. Several companies offer gas mixing devices
Glass plates and aquaria	Local aquarium or hardware store		
ImageJ Software	ImageJ		Freely available imaging software (imagej.nih.gov/ij/index.html)
Knife-coating device	BYK-GARDNER GMBH byk.com	2021	This is a four sided film applicator enabling easy variation of the film thickness. Other versions are also available. We recommend a thickness of the applied film between 75-120 µm, which yields a final sensor layer thickness of ~10% of the applied thickness before solvent evaporation.
LED lamp, Reflector PAR38	Megaman	MM17572	
LED LEDHUB	Omicon Laserage, Germany		Can be configured with a variety of LEDs. For the presented example, the green LED (528 nm) is essential
LOCTITE AA 3494	Henkel AG & Co. KGaA	NA	Acrylic-based instant adhesive
NIS Elements AR Software	Nikon Inc		Software package used for image acquisition
pco.flim	PCO AG, Germany		Frequency domain based luminescence lifetime camera
platinum(II)-5,10,15,20-tetrakis-(2,3,4,5,6-pentafluorophenyl)-porphyrin (PtTFPP)	Frontier Scientific	PtT975	O ₂ indicator
polyethylene terephthalate (PET) foil	Goodfellow	320-992-72	Such foils might also be found from other providers and serve as solid support
Polystyrene (PS)	Sigma Aldrich	9003-53-6	Polymer matrix

Schott RG610 filter	www.uviroptics.com		Here 52mm screw on Filters can obtained. Other sources offer square glass filters from Schott glass that can be fixed in front of the objective
Vinyl electrical tape	Scotch, Super 33+	NA	
Zeiss Makro Planar 2/100 with Hama C for Nikon adaptor	delivered with the camera		Here any other objective might also be used in combination with an adaptor if the objective does not have a C-mount