

Materials List for:

Combining QD-FRET and Microfluidics to Monitor DNA Nanocomplex Self-Assembly in Real-Time

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Materials

Name	Company	Catalog Number	Comments
SU-8	MicroChem Corp.	SU-8 2025	
PDMS	Dow Corning	Sylgard 184	
Plasmid DNA	Clontech Laboratories	pEGFP-C1	4.9 kb, MW = 3.3×10^6
LabelIT Biotin Labeling Kit	Mirus Bio LLC	MIR 3400	Standard protocol yields labeling efficiency of approximately one label every 20-60 bp of double-stranded DNA. The density of labeling was adjusted in this work.
Streptavidin 605QD	Invitrogen	Qdot® 605 ITK® Streptavidin Conjugate	
Cy5-NHS Ester	Amersham	PA15101	
Chitosan	Vanson	390 kDa	83.5% deacetylated
Cover Glass	Fisher Scientific	12-545C	No. 1; Size: 40 x 22mm
Gastight Glass Syringe	Hamilton Co	TLL series	50µL to 500µL depending on sample volume
Tygon Tubing	Small Parts, Inc.	0.02 ID, 100ft	Tygon Tubes Microbore, 0.02 ID, 100ft
Connector	Small Parts, Inc.	HTX-23R	Customized in length of 0.750"
Syringe Pump	Harvard Apparatus	PHD-2000	
CCD	QImaging	Intensified Retiga Cooled	
Microscope	Olympus Corporation	BX-51	100W mercury arc lamp
ImageJ	National Institutes of Health	v1.36b	http://rsb.info.nih.gov/ij
Origin Pro8	OriginLab	Student Version	
Microscope Filter sets	Omega Optical	475AF40	Excitation filter in both channels
Microscope Filter sets	Omega Optical	595AF60	Emission filter in 605QD channel
Microscope Filter sets	Omega Optical	670DF40	Emission filter in QD-FRET channel
Microscope Filter sets	Omega Optical	500 DRLP	Long pass dichroic in 605QD channel
Microscope Filter sets	Omega Optical	595DRLP	Long pass dichroic in QD-FRET channel