

Materials List for:

Near-Infrared Temperature Measurement Technique for Water Surrounding an Induction-heated Small Magnetic Sphere

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Materials

Name	Company	Catalog Number	Comments
Induction heating system	CEIA, Italy	SPW900/56	780 kHz, 5.6 kW (max).
Coil	SA-Japan	custom	Water-cooled copper tube; two-turn; outer dia. 28 mm.
Water chiller	Matsumoto Kikai, Japan	MP-401CT	
Halogen lamp	Hayashi Watch-Works, Japan	LA-150UE-A	
Narrow bandpass filter for $\lambda = 1150$ nm	Andover	115FS10-25	Full width at half-maximum (FWHM): 10 nm.
Narrow bandpass filter for $\lambda = 1412$ nm	Andover	semi-custom	Full width at half-maximum (FWHM): 10 nm.
Bandpass filter for $\lambda = 850-1300$ nm	Spectrogon	SP-1300	
Bandpass filter for $\lambda = 1100-2000$ nm	Spectrogon	SP-2000	
NIR camera	FLIR Systems	Alpha NIR	InGaAs
Image acquisition software	FLIR Systems	IRvista	
Image processing software	NIH	ImageJ	ver. 1.51r
Image processing software	MathWorks	Matlab	ver. 2016a
Telecentric lens	Edmond Optics	55350-L	X1
Steel sphere (0.5 mm dia.)	Kobe Steel, Japan		Fe-1.5Cr-1.0C-0.4Mn (wt %)
Steel sphere (2.0 mm dia.)	Kobe Steel, Japan		Fe-1.5Cr-1.0C-0.4Mn (wt %)
Maltose syrup as aqueous gel	Sonton, Japan	Mizuame	Food product