

Materials List for:

Insights into the Interactions of Amino Acids and Peptides with Inorganic Materials Using Single-Molecule Force Spectroscopy

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Materials

Name	Company	Catalog Number	Comments
Silicon nitride (Si ₃ N ₄) AFM cantilevers with silicon tips	Bruker (Camarillo, CA, USA)		MSNL10, nominal cantilevers radius ~2 nm
Methyltriethoxysilane	Acros Organics (New Jersey, USA)		For Silaylation of the AFM tip
3-(Aminopropyl) triethoxysilane	Sigma-Aldrich (Jerusalem, Israel)		For Silaylation of the AFM tip
Triisopropylsilane	Sigma-Aldrich (Jerusalem, Israel)		Used for peptide deprotection
N-Ethyl-diisopropylamine	Alfa-Aesar (Lancashire, UK)		Used for tip modification
Triethylamine	Alfa-Aesar (Lancashire, UK)		Used for tip modification
Piperidine	Alfa-Aesar (Lancashire, UK)		Used for tip Fmoc deprotection
Fluorenylmethyloxycarbonyl-PEG-N-hydroxysuccinimide (Fmoc-PEG-NHS)	Iris Biotech GmbH (Deutschland, Germany)		Used as the covalent flexible linker (MW = 5,000 Da)
2-(1H-benzotriazol-1-yl)-1,1,3,3,-tetramethyluronium hexafluorophosphate (HBTU)	Alfa Aser (Heysham, England)		Used as a coupling reagent.
N-methyl-2-pyrrolidone (NMP)	Acros Organics (New Jersey, USA)		Used as Solvent in Tip modification procedure
DMF (dimethylformamide)	Merck (Darmstadt, Germany)		Used as Solvent in Tip modification procedure
Chloroform	Bio-Lab (Jerusalem, Israel)		Used as Solvent in Tip modification procedure
Ethanol (Anhydrous)	Gadot (Netanya, Israel)		Used as Solvent in Tip modification procedure
Trifluoro acetic acid (TFA)	Merck (Darmstadt, Germany)		
Acetic anhydride	Merck (Darmstadt, Germany)		
Peptides	GL Biochem (Shanghai, China).		
Phenylalanine and Tyrosine	Biochem (Darmstadt, Germany)		
30% TiO ₂ dispersion in the mixture of solvent 2-(2-Methoxyethoxy) ethanol (DEGME) and Ethyl 3-Ethoxypropionate (EEP)	Applied Vision Laboratories (Jerusalem, Israel)		(30%) in the mixture of solvent 2-(2-Methoxyethoxy) ethanol (DEGME) and Ethyl 3-Ethoxypropionate (EEP). Used for TiO ₂ substrate preparation
Mica substrates	TED PELLA, INC. (Redding, California, USA)		9.9 mm diameter