WM0.8PTD – Technical Specifications

WM0.8PTD probes are used for high resolution imaging in photothermal off-resonance tapping (WaveMode). The combination of high resonance frequency and low spring constant makes them suitable for a wide range of applications in air and liquids. The reflex side of the cantilever is coated with metal layers optimized for efficient photothermal excitation. The coating is highly reflective for standard optical beam deflection AFMs. The paddle shape design helps to minimize reflective interference from sample and to maximize the sum signal.

Cantilever Specifications			
Shape	Rectangular with paddle		
Material	Silicon Nitride		
Coating (Top side)	Metal coating, optimized for photothermal excitation and laser readout.		
	Min.	**Typical**	Max.
Length (µm)	40	**50**	60
Width (µm)	10	**12**	14
Thickness (µm)	0.54	**0.60**	0.66
Resonance frequency in air (kHz)	150	**250**	400
Spring constant (N/m)	0.5	**0.8**	1.8

Tip Specifications	
Shape	Pyramidal
Height (µm)	4 - 8
Tip radius (nm)	< 10
Material	Si
Coating	None

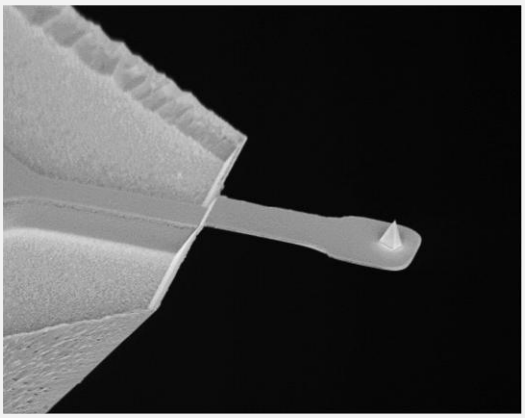

Figure 1: SEM image of a WM0.8PTD AFM probe.

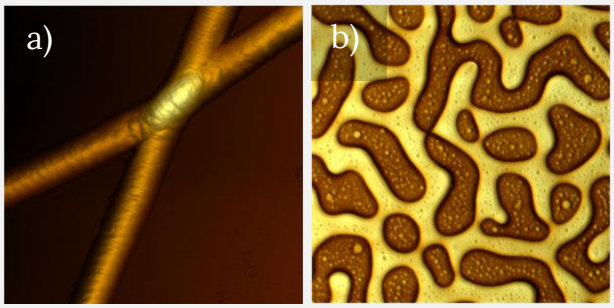

Figure 2: AFM topography images of a) collagen fibrils and b) SBS-PS polymer blend measured with WM0.8PTD and DriveAFM in WaveMode showcasing the broad range of applications of this probe.

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