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Supporting Information

Influence of long-range forces and capillarity on the function of underwater superoleophobic wrinkled surfaces

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P4VP Coating thickness (nm)	Hexadecane				Sesame oil			
	Plasma untreated		Plasma treated		Plasma untreated		Plasma treated	
	Contact angle (º)	Roll-off angle (^o)	Contact angle (º)	Roll-off angle (º)	Contact angle (º)	Roll-off angle (^o)	Contact angle (º)	Roll-off angle (º)
16			160 ± 8	26 ± 18			167 ± 4	37 ± 26
36	169 ± 1	18 ± 7	167 ± 5	2 ± 3	158 ± 8	47 ± 13	167 ± 5	13 ± 18
241	164 ± 3	6 ± 1	167 ± 2	6 ± 3	168 ± 5	18 ± 3	171 ± 3	13 ± 4
P4VP		Petroleum	ו benzene	<u>.</u>		Paraf	fin oil	I
P4VP Coating	Plasma u	Petroleum ntreated	n benzene Plasma	treated	Plasma u	Paraf ntreated	fin oil Plasma	treated
P4VP Coating thickness (nm)	Plasma u Contact angle (º)	Petroleum ntreated Roll-off angle (º)	n benzene Plasma Contact angle (º)	treated Roll-off angle (º)	Plasma u Contact angle (º)	Paraf ntreated Roll-off angle (º)	fin oil Plasma Contact angle (º)	treated Roll-off angle (º)
P4VP Coating thickness (nm) 16	Plasma u Contact angle (º)	Petroleun ntreated Roll-off angle (º)	n benzene Plasma Contact angle (º) 164 ± 13	treated Roll-off angle (º) 24 ± 20	Plasma u Contact angle (º)	Paraf ntreated Roll-off angle (º)	fin oil Plasma Contact angle (º) 170 ± 2	treated Roll-off angle (≌) 25 ± 19
P4VP Coating thickness (nm) 16 36	Plasma u Contact angle (º) 162 ± 10	Petroleun ntreated Roll-off angle (º) 28 ± 16	Plasma Contact angle (°) 164 ± 13 164 ± 3	treated Roll-off angle (º) 24 ± 20 5 ± 2	Plasma u Contact angle (º) 165 ± 11	Paraf ntreated Roll-off angle (º) 31 ± 18	fin oil Plasma Contact angle (º) 170 ± 2 166 ± 5	treated Roll-off angle (º) 25 ± 19 11 ± 3

 Table S1: Underwater contact angle and roll-off angle of different oils on the plasma treated and

untreated wrinkled P4VP as a function of coating thickness.



Fig. S1: The measurement of the width of folds on the 241 nm-thick wrinkled P4VP surfaces is shown in this SEM micrograph. Measurement taken by Image J.



Fig. S2: Underwater contact angle of hexadecane on a 22 nm-thick smooth gold film.



Fig. S3. Reflectance of dry and infused wrinkled P4VP films on top of transparent Polyshrink substrates (A) 36 nm-thick P4VP film, and (B) 241 nm-thick P4VP film.