

Electronic Supplementary Information for

“Control of Post-Growth Processes for the Selection  
of Metallo-Tetraphenylporphyrin Nanowires”

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**Table S1.** Number, height, length, and width of the nanostructures observed in Figure 2, for the samples subjected to different  $t_s$  and  $t_a$ . Note that height, width and length are reported in terms of range of values.

	$t_a = 10 \text{ min}$				$t_a = 1 \text{ week}$				$t_a = 1 \text{ month}$			
	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )
$t_s = 210 \text{ min}$												
2D-islands	35	1.22±0.14	-	-	-	-	-	-	-	-	-	-
nanoblobs	65	10÷19	0.2÷0.6	0.07÷0.11	55	3÷12	0.2÷0.6	0.06÷0.1	-	-	-	-
nanowires	16	7÷20	0.6÷2.5	0.04÷0.08	17	7÷28	0.6÷3	0.05÷0.11	37	10÷27	0.2÷1	0.05÷0.1
nanoplatelets	-	-	-	-	-	-	-	-	76	40÷54	0.09÷0.13	0.09÷0.26

	$t_a = 10 \text{ min}$				$t_a = 1 \text{ week}$				$t_a = 1 \text{ month}$			
	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )
$t_s = 1 \text{ day}$												
2D-islands	15	1.20±0.14	-	-	-	-	-	-	-	-	-	-
nanoblobs	52	10÷18	0.2÷0.4	0.08÷0.15	40	3÷14	0.2÷0.4	0.03÷0.16	-	-	-	-
nanowires	46	3÷14	0.6÷4	0.03÷0.13	50	6÷28	0.4÷4	0.05÷0.14	42	11÷33	0.3÷1.5	0.05÷0.12
nanoplatelets	-	-	-	-	-	-	-	-	77	30÷64	0.08÷0.24	0.08÷0.13

	$t_a = 10 \text{ min}$				$t_a = 1 \text{ week}$				$t_a = 1 \text{ month}$			
	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )
$t_s = 1 \text{ week}$												
2D-islands	-	-	-	-	-	-	-	-	-	-	-	-
nanoblobs	20	9÷17	0.1÷0.3	0.08÷0.13	17	7÷16	0.1÷0.3	0.08÷0.14	-	-	-	-
nanowires	33	5÷40	0.3÷3.2	0.05÷0.14	34	8÷40	0.3÷3.1	0.05÷0.15	37	8÷39	0.3÷2.7	0.03÷0.13
nanoplatelets	-	-	-	-	-	-	-	-	4	53÷96	0.09÷0.16	0.06÷0.12

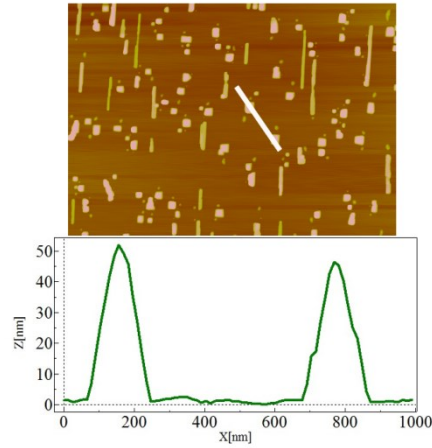
	$t_a = 10 \text{ min}$				$t_a = 1 \text{ week}$				$t_a = 1 \text{ month}$			
	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )	#	height (nm)	length ( $\mu\text{m}$ )	width ( $\mu\text{m}$ )
$t_s = 1 \text{ month}$												
2D-islands	-	-	-	-	-	-	-	-	-	-	-	-
nanoblobs	-	-	-	-	-	-	-	-	-	-	-	-
nanowires	33	4÷47	0.3÷4.2	0.03÷0.14	34	8÷47	0.3÷4.2	0.04÷0.15	34	7 ÷50	0.3÷4.4	0.04÷0.14
nanoplatelets	-	-	-	-	-	-	-	-	-	-	-	-

**Table S2.** Coverage area ( $A_b$ ) and volume ( $V_b$ ) of the samples reported in Figure 2 as depicted by AFM analysis

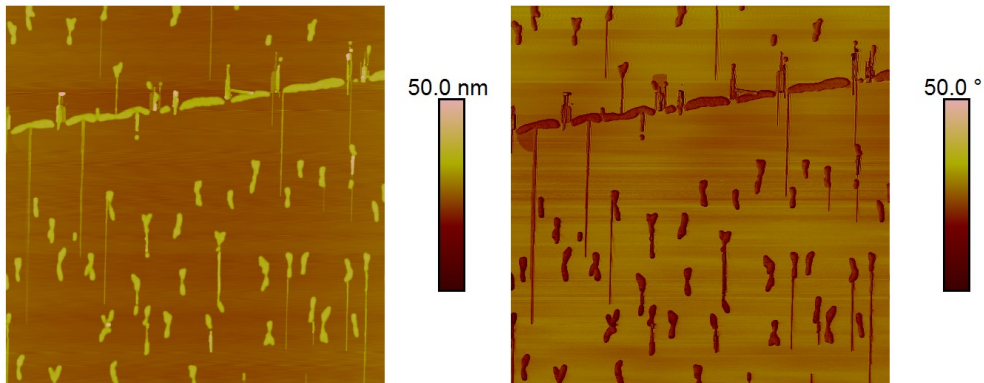
	$t_a = 10 \text{ min}$		$t_a = 1 \text{ week}$		$t_a = 1 \text{ month}$	
	$A_b$ (%)	$V_b$ ( $\mu\text{m}^3$ )	$A_b$ (%)	$V_b$ ( $\mu\text{m}^3$ )	$A_b$ (%)	$V_b$ ( $\mu\text{m}^3$ )
$t_s = 210 \text{ min}$	21	0.039	18	0.053	12	0.047±0.004
$t_s = 1 \text{ day}$	23	0.039	24	0.059	15	0.052±0.004
$t_s = 1 \text{ week}$	17	0.045	16	0.046	11	0.036±0.002
$t_s = 1 \text{ month}$	10	0.033	11	0.035	11	0.035

**Table S3.** Coverage area ( $A_b$ ) and range of height values of nanowires and nanoplatelets in samples stored in vacuum for different  $t_s$  and aged in air for one month reported in Figure 2c, 2f, 2i, and 2l respectively.

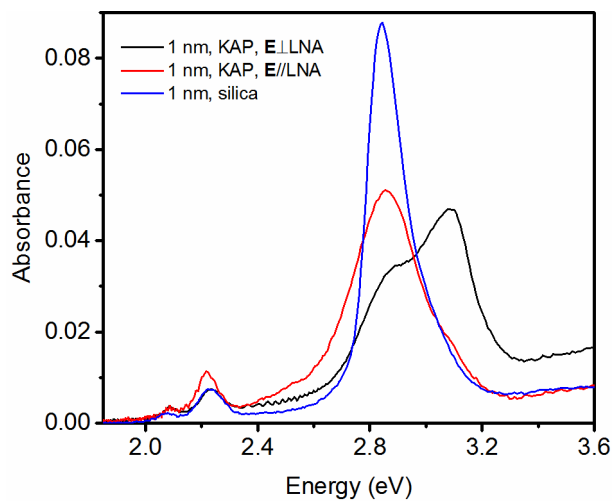
	nanowires		nanoplatelets	
	$A_b$ (%)	Height (nm)	$A_b$ (%)	Height (nm)
2-phase sample $t_s = 210 \text{ min}$ (Figure 2c)	9	10÷27	3	40÷54
2-phase sample $t_s = 1 \text{ day}$ (Figure 2f)	12.7	11÷33	2.3	30÷64
Nanowires $t_s = 1 \text{ week}$ (Figure 2i)	11	8÷39	0.2	53÷96
Nanowires $t_s = 1 \text{ month}$ (Figure 2l)	11	7 ÷50	-	-



**Figure S1.** AFM height ( $5 \times 5$ )  $\mu\text{m}^2$  image reported in Figure 2c. The inset represents the section profile along the white line. The detected shape of nanoplatelets may be affected by AFM tip.



**Figure S2.** AFM height ( $5 \times 5$ )  $\mu\text{m}^2$  image (left panel) and the corresponding phase contrast image (right panel) of a 0.5 nm thick sample with storage time  $t_s = 210$  min, imaged just after the extraction from the growth chamber ( $t_a = 10$  min).



**Figure S3.** Polarized absorption spectra of a 1 nm thick ZnTPP film grown on KAP (nanowires) as collected for  $E//LNA$  and  $E\perp LNA$  (red and black line, respectively), compared to the absorption spectrum of 1 nm thick ZnTPP film grown on silica (blue line). A constant background have been subtracted for better comparison.