

## Relating the rate of growth of metal nanoparticles to cluster size distribution in electroless deposition

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### Supporting Information

**Supporting Information 1.** Full statistics report of the linear fit and the  $\xi(\gamma)$  model.

We provide full statistics report of the linear regression as in Equation (5) of the main text, including values for parameter table,  $r^2$ , adjusted  $r^2$ , estimated variance and ANOVA table. We used at least  $2^5$  simulations per each  $\rho$  to fit data and evaluate the model.

*Parameter Table*

	Estimate	SE	TStat	PValue
1	- 13.6936	0.650125	- 21.0631	$2.7108 \times 10^{-8}$
x	14.3352	0.48026	29.8488	$1.72117 \times 10^{-9}$

*RSquared:* 0.991101

*Adjusted RSquared:* 0.989988

*Estimated Variance:* 0.0917735

*ANOVA Table*

	DF	SumOfSq	MeanSq	FRatio	PValue
Model	1	81.7658	81.7658	890.953	$1.7212 \times 10^{-9}$
Error	8	0.734188	0.0917735		
Total	9	82.5			

**Supporting Information 2.** *Full statistics report of the linear fit of the number of clusters  $Q$  measured from SEM images of electroless samples.*

We provide full statistics reports of the linear regression of  $Q$  measured from SEM images of gold and silver nanoparticles, as in [Figure 5d](#) of the main text. Reports including values for parameter table,  $r^2$ , adjusted  $r^2$ , estimated variance and ANOVA table. We carried out 25 measurements over 5 different samples per each time of the analysis.

**Silver**

*Parameter Table*

	Estimate	SE	TStat	PValue
1	28.533	247.699	1.04374	0.373309
x	56.3772	4.08042	13.8165	0.000820624

*RSquared:* 0.984528

*Adjusted RSquared:* 0.97937

*Estimated Variance:* 0.166831

*ANOVA Table*

	DF	SumOfSq	MeanSq	FRatio	PValue
Model	1	$3.184 \times 10^7$	$3.18475 \times 10^7$	190.896	0.00082062
Error	3	500494.	166831.		
Total	4	$3.2348 \times 10^7$			

**Gold**

*Parameter Table*

	Estimate	SE	TStat	PValue
1	21.1876	60.0465	0.685929	0.542013
x	16.3613	0.989166	16.5405	0.000480996

*RSquared:* 0.989154

*Adjusted RSquared:* 0.985538

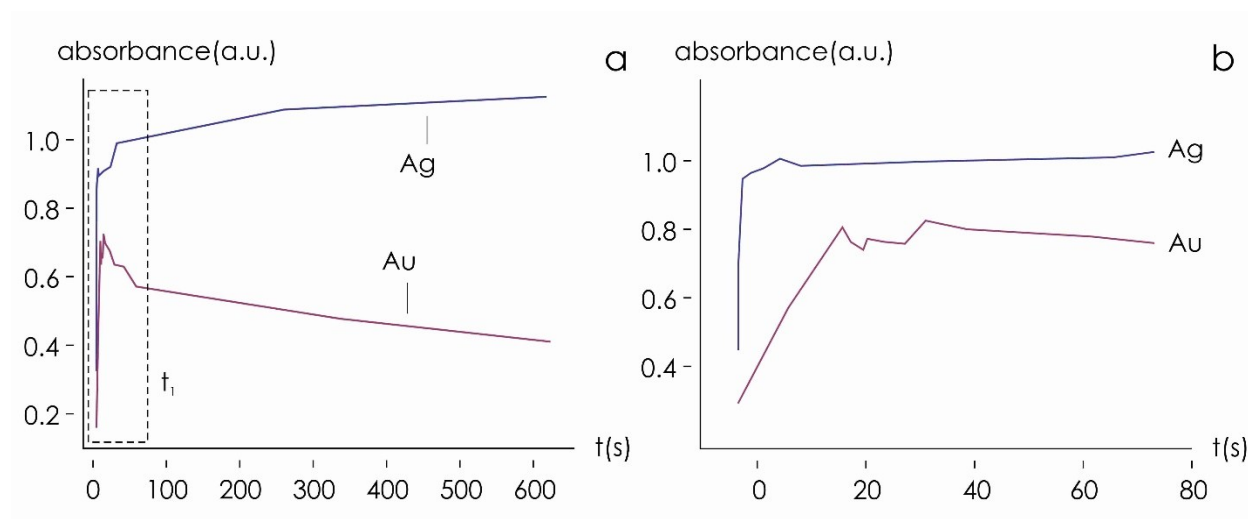
*Estimated Variance:* 0.0980406

*ANOVA Table*

	DF	SumOfSq	MeanSq	FRatio	PValue
Model	1	$2.68227 \times 10^6$	$2.68227 \times 10^6$	273.587	0.000480996
Error	3	29412.2	9804.06		
Total	4	$2.71168 \times 10^6$			

**Supporting Information 3.** *Growth curves of silver and gold obtained from UV/Vis spectrophotometry.*

We report in the **Supporting Figure 3.1** additional UV/Vis spectrophotometry data that describe the rate of electroless reaction of deposition, as explained in the methods of the paper. We determined the dynamics of Au and Ag nanoparticles formation as the onset of the variation of absorbance of the solutions measured at  $\lambda_1 = 560 \text{ nm}$  for gold and  $\lambda_2 = 460 \text{ nm}$  for silver. Time evolution of absorbance values confirm that the rate of growth of silver is  $\sim 36$  times higher than the rate of growth of gold.



**Supporting Figure 3.1**