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ELECTRONIC SUPPLEMENTARY INFORMATION





Fig S1: STEM images of (Top) Conventional One-Step nIR-gold nanoplate synthesis, (Middle) DiaSynth with dialysis (Process 1), and (Bottom) DiaSynth without dialysis (Process 2).



Fig S2: The UV/Vis absorbance data using Process 3 used in Figure 2. Each of the data series shown is an average of 3 samples.

n	0 mm²/ml	220 mm ² /ml	340 mm²/ml	470 mm²/ml	650 mm²/ml	1075 mm²/ml
1	1065.8	890.0	885.0	870.0	840.2	807.3
2	1080.4	896.0	880.0	881.0	850.9	807.3
3	1060.5	890.0	861.0	855.0	834.1	795.2
Avg	1068.9	892.0	875.3	868.7	841.7	803.3
Std	10.3	3.5	12.7	13.1	8.5	7.0

Table S1: Near Infrared absorbance peak used in Fig. 2 and Fig. S2.



Fig S3: The UV/Vis absorbance data for Process 1 used in Figure 3 (a). Each of the data series shown is an average of 3 samples.

		25C			37C			50C	
n	220mm² /ml	340mm²/ ml	470mm²/ ml	220mm²/ ml	340mm²/ ml	470mm²/ ml	220mm²/ ml	340mm²/ ml	470mm²/ ml
1	, 888.0	826.1	817.9	804.9	734.0	728.2	751.0	705.0	650.0
2	895.0	797.0	827.0	837.0	744.0	765.1	746.0	716.0	662.5
3	845.1	808.0	820.0	840.0	734.0	758.9	756.0	708.0	657.9
Avg	876.0	810.4	821.6	827.3	737.3	750.7	751.0	709.7	656.8
Std	27.0	14.7	4.8	19.4	5.7	19.8	5.0	5.7	6.3



Fig S4: The UV/Vis absorbance data for Process 2 used in Figure 3 (b). Each of the data series shown is an average of 3 samples.

Table S3: Near Infrared absorbance peak used in Fig. 3 (b) and Fig. S4.

		25C			50C			100C	
n	220mm ²	340mm²/	470mm²/	220mm²/	340mm²/	470mm²/	220mm²/	340mm²/	470mm²/
	/ml	ml							
1	923.0	904.0	903.0	860.0	849.0	817.9	842.1	781.0	753.0
2	887.0	893.0	899.0	870.9	849.0	783.0	846.0	780.0	737.0
3	893.0	899.0	901.0	870.0	847.0	800.0	859.1	795.0	743.0
Avg	901.0	898.7	901.0	867.0	848.3	800.3	849.0	785.3	744.3
Std	19.3	5.5	2.0	6.1	1.2	17.5	8.9	8.3	8.1



Fig S5: The UV/Vis absorbance data for Process 1 used in Figure 4 to test the effect of MWCO. Each of the data series shown is an average of 3 samples.

n	3.5kDa	8kDa	12kDa	15kDa	25kDa	50kDa
1	731	724	734	717	715	718
2	742	730	731	739	720	725
3	768	765	700	700	720	732
Avg	747.0	739.7	721.7	718.7	718.3	725.0
Std	19.0	22.1	18.8	19.6	2.9	7.0

Table S4: Near Infrared absorbance peak used in Fig. 4 and Fig. S5.



Fig S6: The UV/Vis absorbance data for Process 1 used in Figure 5 (a). Each of the data series shown is an average of 3 samples.



Fig S7: The UV/Vis absorbance data for Process 2 used in Figure 5 (b). Each of the data series shown is an average of 3 samples.



Fig S8: The UV/Vis absorbance data from sedimentation used in Figure 7.

 Table S5: Near Infrared absorbance used in Fig. 7 and Fig. S8.

	Absorbance			
Day	750nm	870nm		
0	5.0	5.5		
7	4.6	4.6		
14	4.5	4.2		
21	4.3	3.5		