

Supporting Information for “High-Throughput Crystallization of L-alanine using iCrystal Plates and Metal-Assisted and Microwave-Accelerated Evaporative Crystallization”

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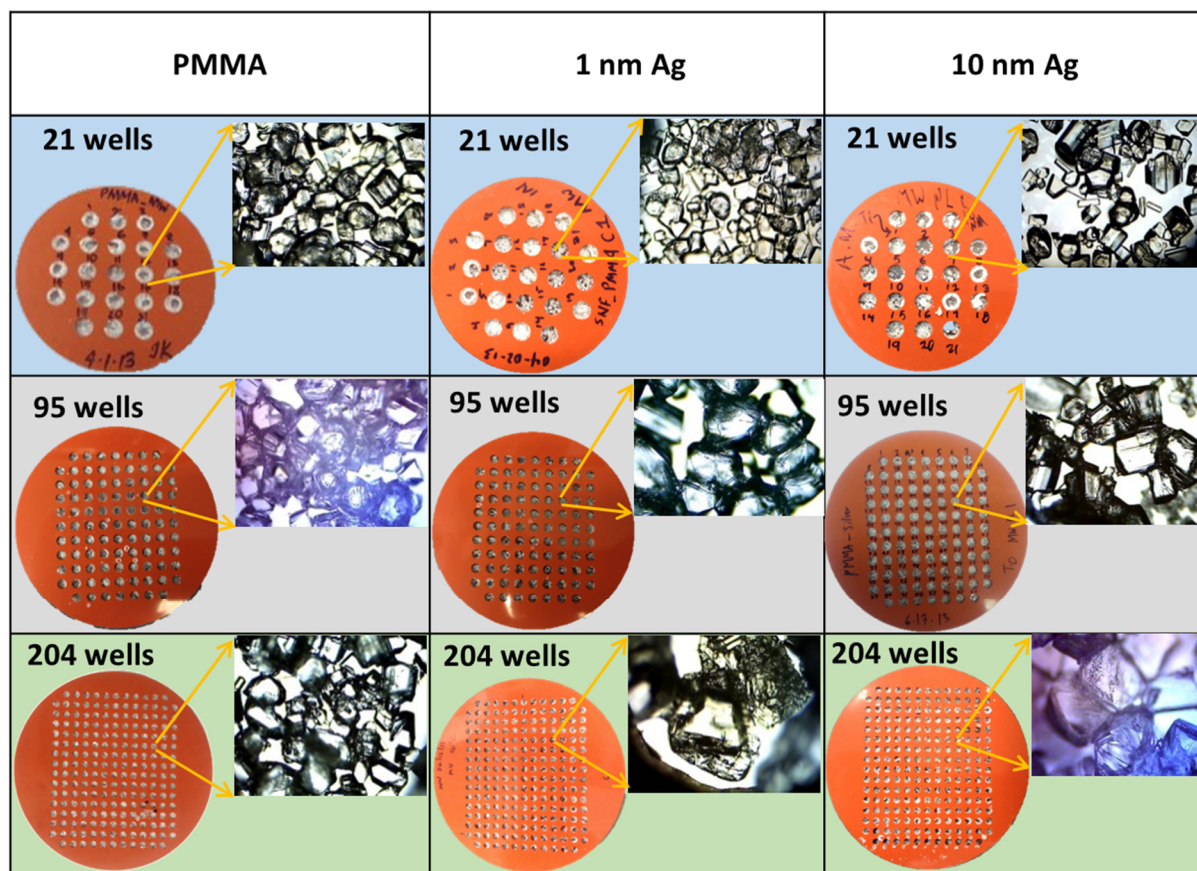


Figure S1. Optical images of L-alanine crystals obtained on iCrystal plates, with blank surface (PMMA) and with 1 nm and 10 nm silver thin film using microwave power level 1. iCrystal plates with 21-, 95- and 204-well sample capacity was used.

21-wells		Size Range, μm Number of Crystals					
		Blank	1 nm Ag			10 nm Ag	
Power Level	PMMA with cover	With cover only	With well-coat only	With cover with well-coat	With cover only	With well-coat only	With cover with well-coat
N/A (RT)	90-1248 78	86-1098 93	55-1524 30	76-847 91	202-1096 144	224.7-1096.4 145	158-895.9 81
1	92-1130 29	356-893 198	59-625 124	66-1107 97	150-1236 147	85-501 109	132-634 161
3	96-364 25	212-1191 20	90-257 54	101-1481 38	163-1026 113	159-586 50	213-750.4 30
5	103-240 4	155-1215 34	171-282 5	105-1533 63	291-938 188	270-2368 21	270.2-2367.5 30
7	126-355 17	146-1566 49	180-390 21	220-2665 41	121-781 72	166-594.5 33	120.4-796.7 43
10	110-250 19	83-423 14	65-155 50	155-1718 59	128-917 50	106.5-477.2 45	146.5-669.4 43

Figure S2. Summary of the size and number of L-alanine crystals obtained under different experimental condition on iCrystal plates with 21-well sample capacity.

21 wells		Size Range, min and max, μm Total number of crystals							
Initial Solution Temp		Ag		Cu		Au		Ni	
		RT	MW	RT	MW	RT	MW	RT	MW
50°C		55 1524	59 625	134 870	105 1222	83 553	103 483	78 630	59 463
		30	154	97	83	82	69	79	89
70°C		53 1220	62 1270	181 1690	262 1314	239 2285	97 421	156 1353	64 941
		137	100	50	41	33	36	52	57
90°C		44 1153	80 330	1187 2309	411 2048	251 2306	87 448	93 1175	51 721
		121	27	20	30	26	80	42	70

Figure S3. Size of L-alanine crystals obtained at three initial temperatures using room temperature and using microwave (MW) heating at PL 1 on iCrystal plates with Ag, Cu, Au and Ni thin films were used.

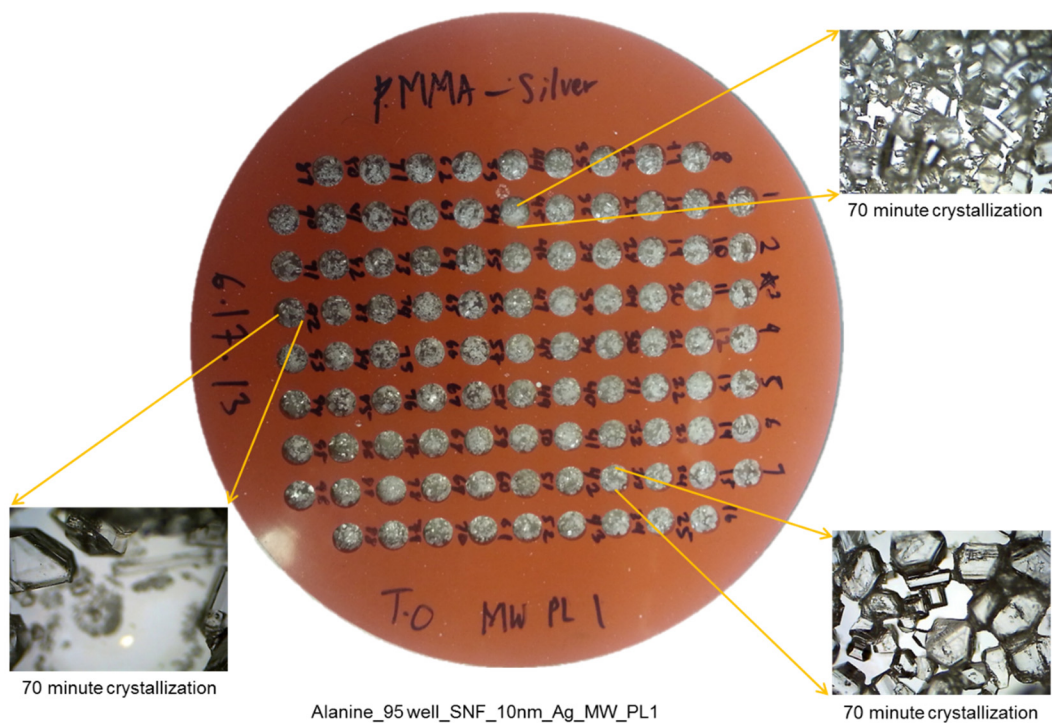


Figure S4. Complete crystallization of L-alanine crystals on iCrystal plates with 95-well sample capacity with 10 nm Ag thin film after using microwave heating at PL 1.

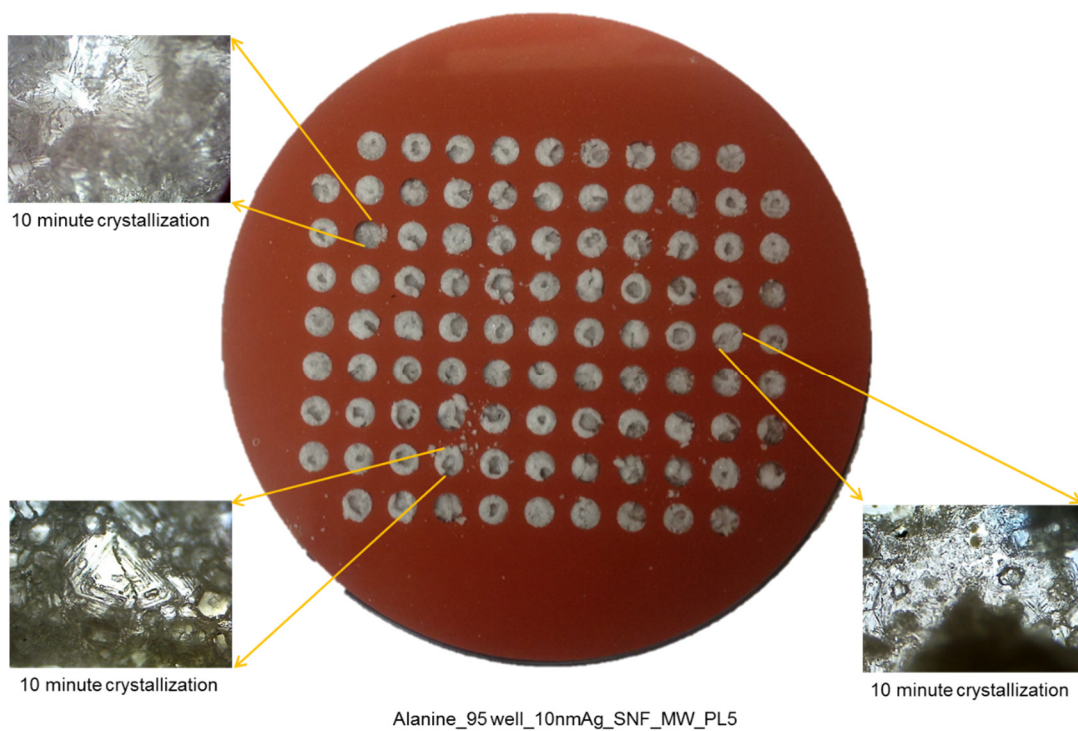


Figure S5. Complete crystallization of L-alanine crystals on iCrystal plates with 95-well sample capacity with 10 nm Ag thin film after using microwave heating at PL 5.

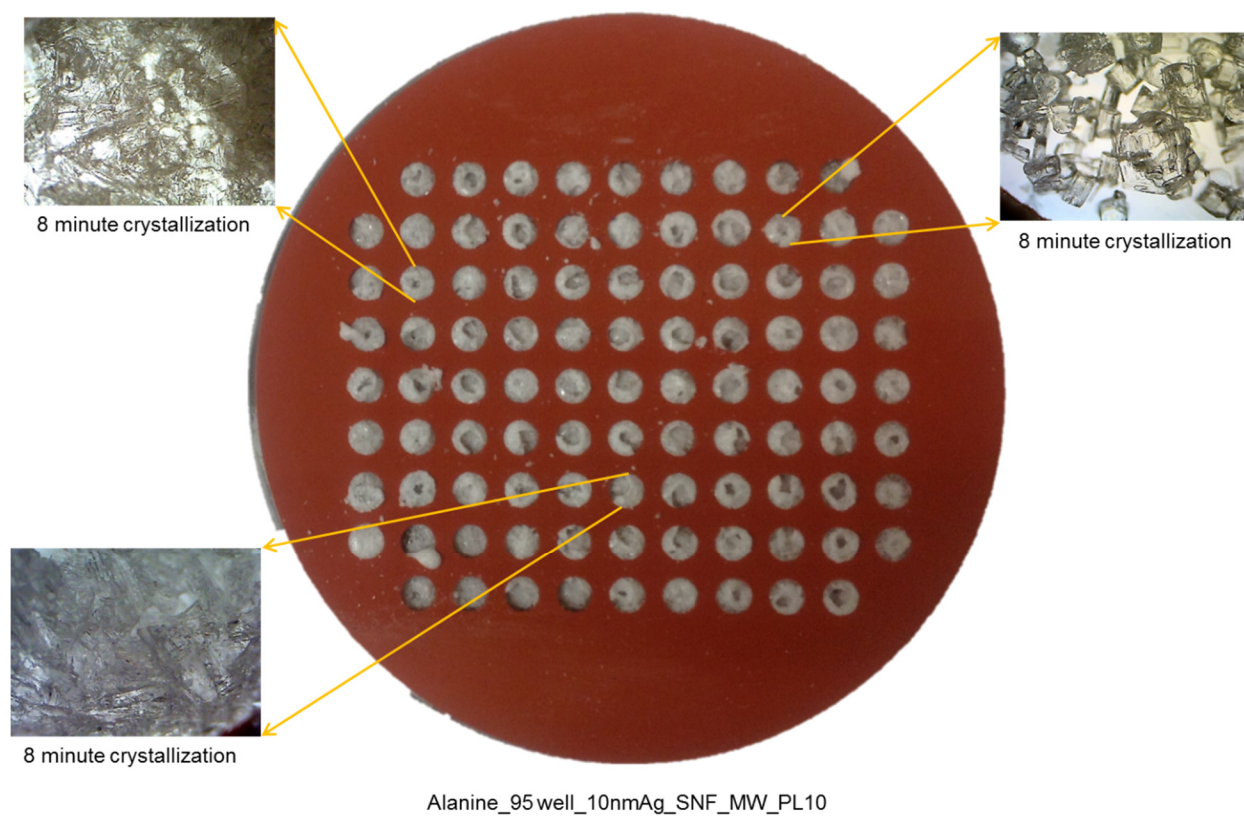


Figure S6. Complete crystallization of L-alanine crystals on iCrystal plates with 95-well sample capacity with 10 nm Ag thin film after using microwave heating at PL 10.

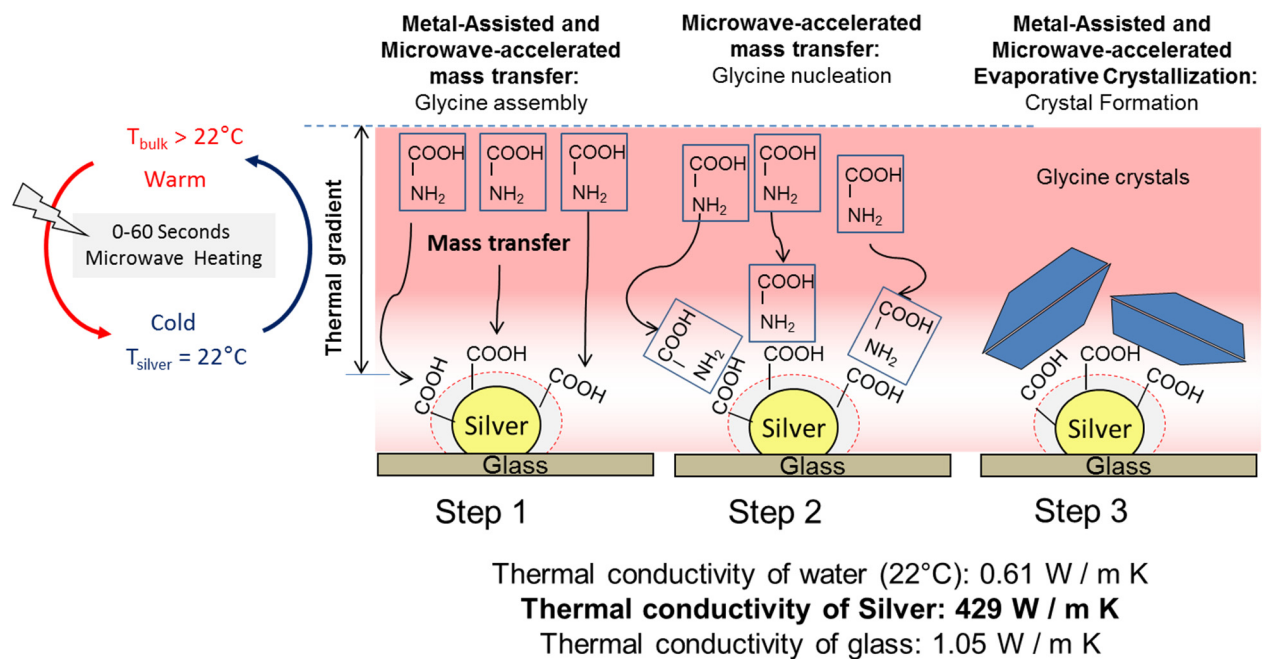


Figure S7. Schematic depiction of the MA-MAEC technique (from reference 47).