Electronic Supplementary Material (ESI) for CrystEngComm.

Supporting Information for

Gel network incorporation into single crystals grown by decomplexation method

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Supporting figures:

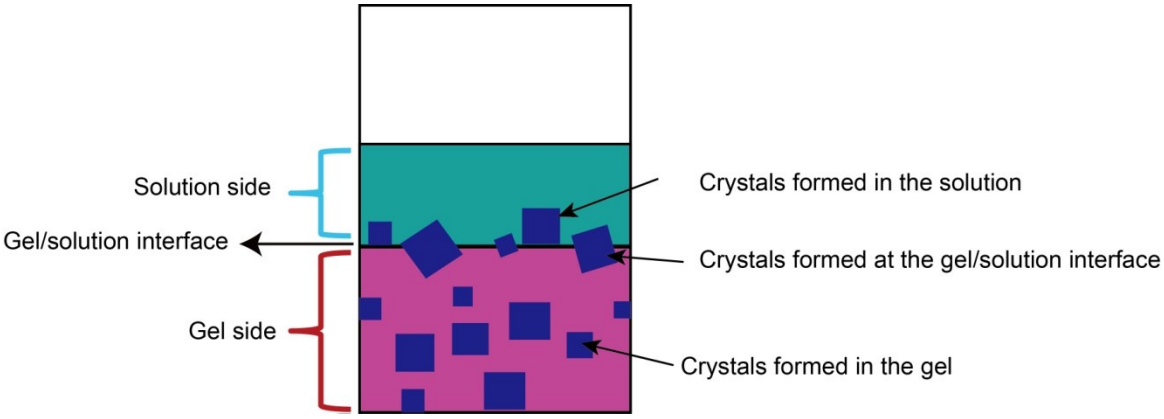

Fig. S1 Crystals grown in the vial by gel method. As the crystals form during the mutual diffusion between a solution and a gel, crystallization took place in the solutions, in the gels, and at the gel/solution interface.

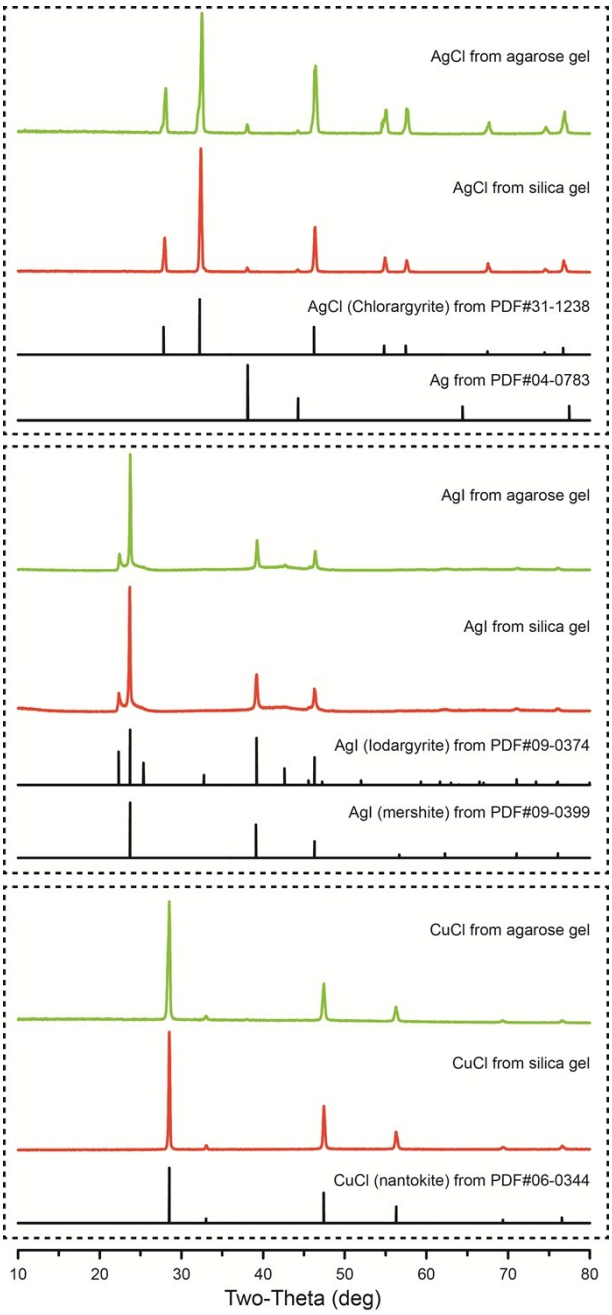

Fig. S2 Powder X-ray diffraction patterns of AgCl, AgI and CuCl crystals grown in silica gels and agarose gels.

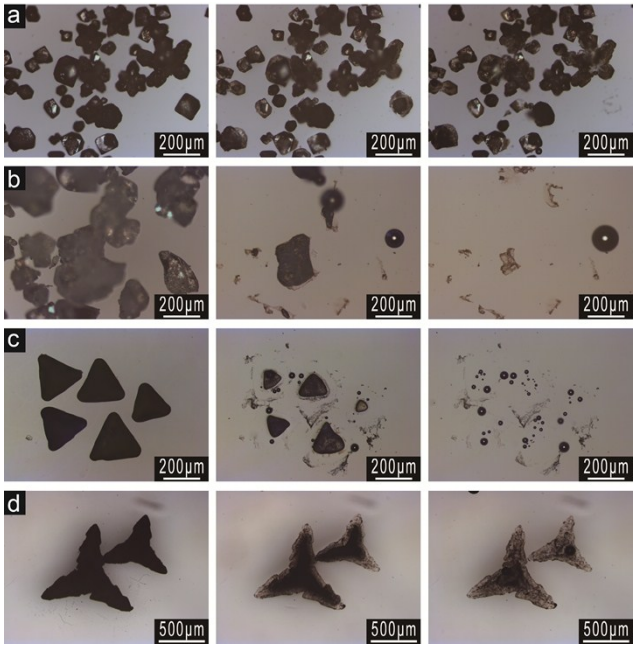

Fig. S3 Optical microscopy (OM) images of crystals grown in agarose gel before (left), during (middle) and after (right) dissolution of the crystals. (a) AgCl crystals from 0.5 w/v% agarose gel; (b) AgI crystals from 0.5 w/v% agarose gel; (c) CuCl crystals from 0.5 w/v% agarose gel (HCl as the complex agent); (d) CuCl crystals from 0.5 w/v% agarose gel (NaCl as the complex agent).

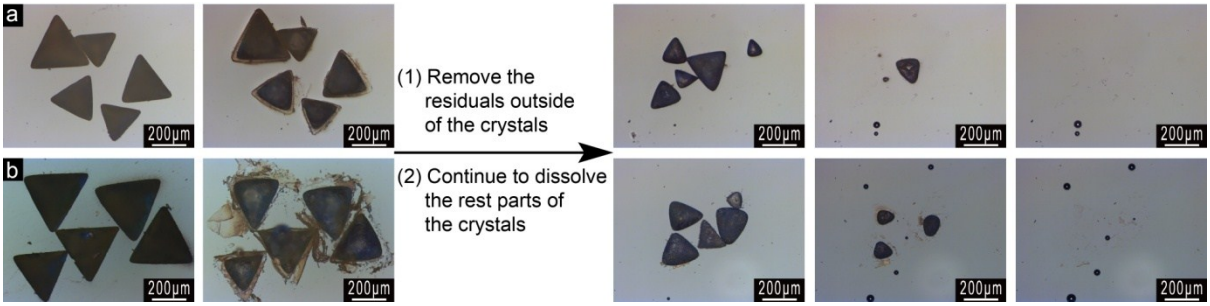

Fig. S4 Series of OM images recording the dissolution of CuCl crystals grown in (a) agarose gels and (b) silica gels with HCl as the complex agent. The crystals were first partially dissolved (two images on the left side), then the residues on the surface were removed. Finally, the rest crystals were subjected to secondary dissolution (three images on the right side), resulting in almost complete dissolution with few residues.

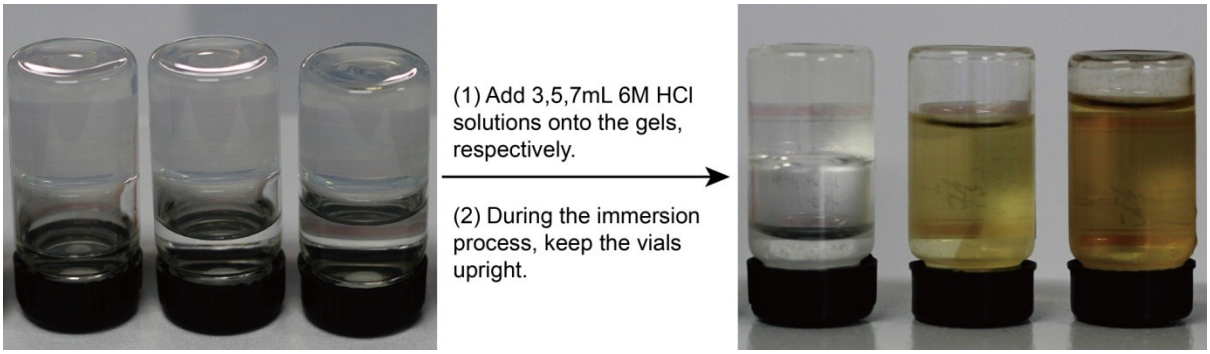

Fig. S5 Photos showing the damages of HCl on agarose gel. After days' immersion, the HCl solution will severely and even completely damage the 10 mL 1 w/v% agarose gel in the vials.

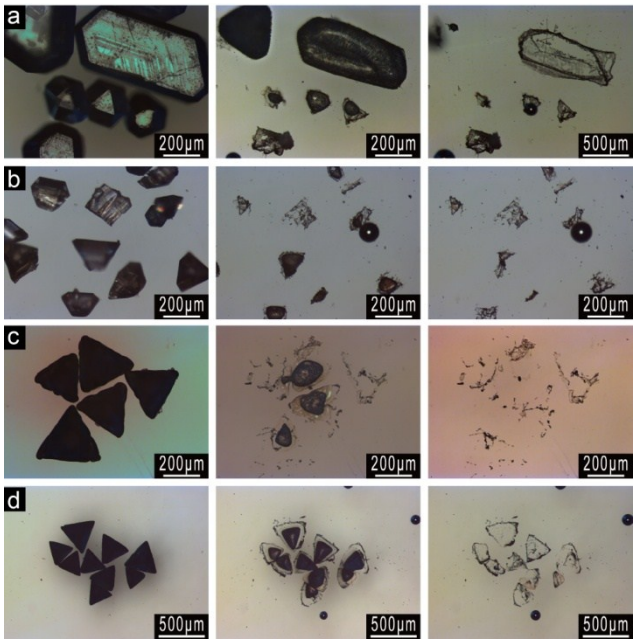

Fig. S6 OM images of crystals grown in silica gels before (left), during (middle) and after (right) dissolution of the crystals. (a) AgCl crystals from silica gel (concentration of sodium metasilicate 4.5 w/v%); (b) AgI crystals from silica gel (concentration of sodium metasilicate 4.5 w/v%); (c) CuCl crystals from silica gel (concentration of sodium metasilicate 4.5 w/v%, HCl as the complex agent); (d) CuCl crystals from silica gel (concentration of sodium metasilicate 4.5 w/v%, NaCl as the complex agent). All the silica gel grown crystals cannot incorporate the gel network.

Supporting Table:

Table S1 Unit cell dimensions of AgCl, AgI and CuCl (with NaCl as the complex agent) crystals grown from agarose gels.

	Lattice parameter	Ref. (PDF cards)
AgCl	(5.541(5), 5.546(8), 5.552(7); 89.98(2), 90.07(1), 90.05(3))	(5.549, 5.549, 5.549; 90.00, 90.00, 90.00) PDF#31-1238
AgI	(4.597(6), 4.590(9), 7.518(5); 90.04(2), 89.72(3), 119.90(2))	(4.592, 4.592, 7.510; 90.00, 90.00, 120.00) PDF#09-0374
CuCl	(5.411(8), 5.409(5), 5.426(7); 89.94(5); 89.75(3), 90.16(3))	(5.416, 5.416, 5.416; 90.00, 90.00, 90.00) PDF#06-0344