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Supporting information for article:

Epitaxies of Ca-sulfates on calcite (CaCO3). II. The main $\{010\}$, $\{001\}$ and $\{100\}$ forms of bassanite (CaSO4·0.5H2O) epi-deposited on the substrate form of $\{10.4\}$ calcite

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Calcite is made by three supercells; each of them has multiplicity (2×) and is described by vectors and angles comprised between them, and that is: i) [020] = 9.979, $\frac{1}{3} \times [\overline{4}11] = 9.516$, $\delta = 121.62^{\circ}$; ii) $-\frac{1}{3} \times [45\overline{1}] = 9.516$, -[020] = 9.979, $\delta = 121.62^{\circ}$, and $-\frac{1}{3} \times [\overline{4}11] = 9.516$, $\frac{1}{3} \times [45\overline{1}] = 9.516$, $\rho = 116.75^{\circ}$. The pseudo-hexagonal supercell with multiplicity (6×), occupies an area of 242.58 Å². The rectangular 2D-cell on the (10.4) face is drawn in Figure S1 (upper left side), while an example of one 2D-supercell has been drawn as well in the same figure (lower left side).

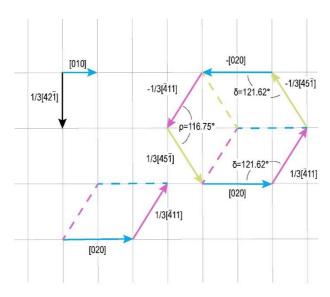


Figure S1. The pseudo-hexagonality of the cleaved $\{10.4\}$ form of calcite. A (6^{\times}) supercell, (right side), made by three (2^{\times}) supercells, (left, lower side) is shown. The smallest 2D-cell of $\{10.4\}$ is also drawn (upper left).

Table S1. Other 2D-LC between $\{001\}_{Bss}$ and $\{10.4\}_{Cc}$.

Ranking	{10.4} _{Ce} lattice vectors (Å)	{001} _{Bss} lattice vectors (Å)	Max. linear and area misfit (Δ%)	Obliquity (°)	Notes
case (2c)	$\frac{1}{3}[\overline{4}41] = 12.8546$ $[43\overline{1}] = 24.816$	[100] = 12.032 $[\overline{1}30] = 24.013$	-6.95 -3.34		No twin axis
2D cell area (Å) ² and multiplicity	283.033 (7×)	249.87 (3×)	-13.27	0	Coherent linear misfits
case (4a)	$[42\overline{1}] = 24.309$	2[100] = 24.064	-1.02		[010] _{Bss} twin axis
	3[010] = 14.969	2[010] = 13.86	-8.00		
2D cell area (Å) ² and multiplicity	363.901 (9×)	333.166 (4×)	-9.22	0	Coherent linear misfits
case (4b)	$\frac{2}{3}[\bar{4}11] = 19.032$	$[1\overline{2}0] = 18.349$	-3.72		[210] _{Bss} twin axis
	5[010] = 24.948	[210] = 25.017	+0.276		
2D cell area (Å) ² and multiplicity	404.334 (10×)	416.458 (5×)	+2.99	6.71	Opposite linear misfits