

## Supplementary materials

**Table 3** Selected bond lengths (Å) for [2PyAla][ClO<sub>4</sub>] and [2PyAla][BF<sub>4</sub>].

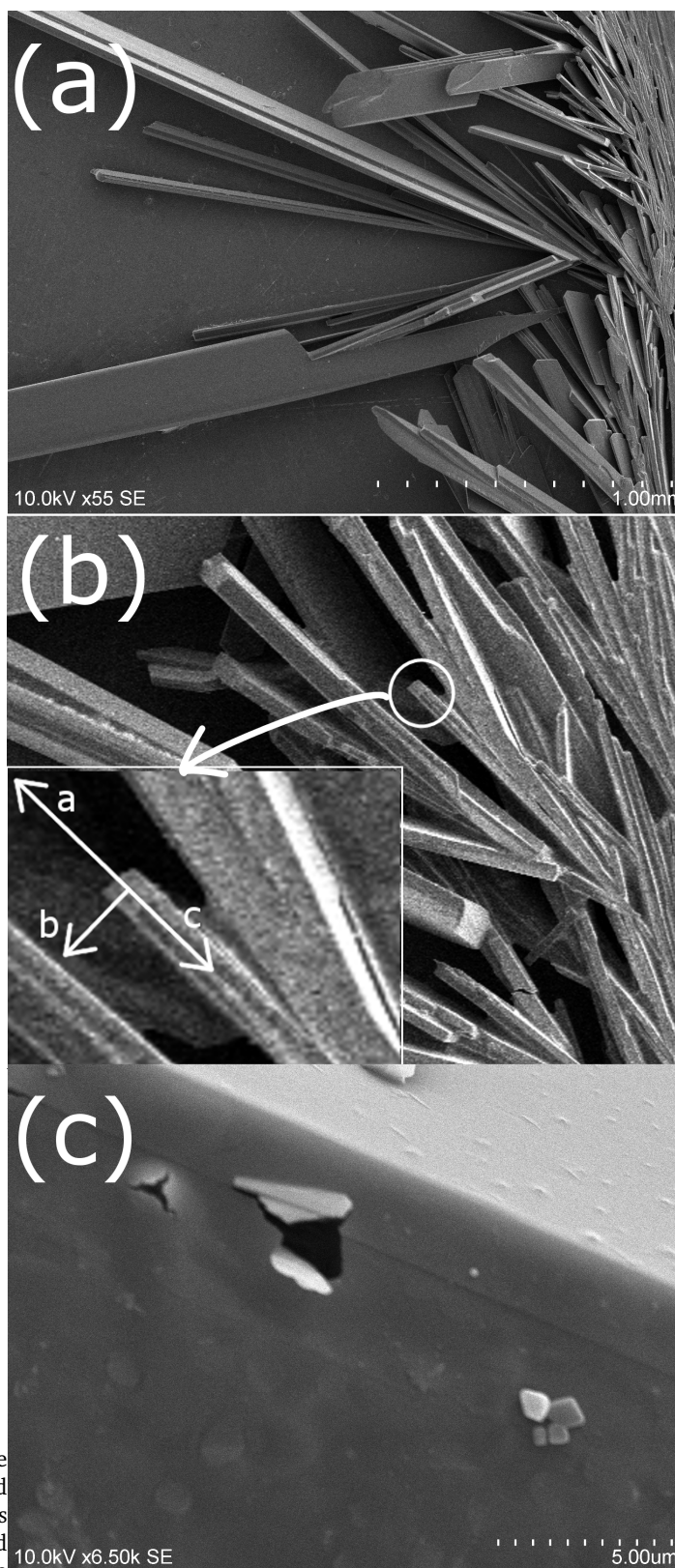
[2PyAla][ClO <sub>4</sub> ]			
Cl1—O3	1.417 (3)	N2—C5	1.340 (4)
Cl1—O2	1.418 (3)	C1—C2	1.535 (4)
Cl1—O1	1.425 (3)	C2—C3	1.532 (4)
Cl1—O4	1.427 (3)	C3—C4	1.492 (4)
O5—C1	1.243 (4)	C4—C8	1.377 (5)
N1—C2	1.481 (4)	C5—C6	1.349 (5)
O6—C1	1.252 (4)	C6—C7	1.375 (5)
N2—C4	1.335 (4)	C7—C8	1.379 (5)

[2PyAla][BF <sub>4</sub> ]			
N28—C8	1.342 (7)	N14—C4	1.495 (6)
N28—C6	1.344 (6)	O13—C2	1.226 (6)
N27—C23	1.344 (7)	O12—C2	1.256 (6)
N27—C21	1.344 (7)	C11—C6	1.369 (7)
C26—C21	1.373 (7)	C11—C10	1.373 (8)
C26—C25	1.386 (8)	C10—C9	1.382 (9)
C25—C24	1.384 (10)	C9—C8	1.340 (9)
C21—C20	1.498 (7)	C6—C5	1.506 (7)
C20—C19	1.538 (6)	C5—C4	1.523 (7)
C19—N15	1.481 (6)	C23—C24	1.337 (10)
C19—C18	1.530 (5)	C4—C2	1.540 (6)
N28—C8	1.342 (7)	N14—C4	1.495 (6)

## SEM observations

Figure S1 presents the images obtained by means of SEM. In the general view (Figure S1a) one can see elongated, needle shaped crystals of the different size. The cross-section of the crystals is rectangular and according to the coordinate system of the oriented crystal the fastest grow rate is along the *a* axis. The image in the Figure S1c shows that the crystals are sensitive to an electron beam what is manifested by two small cracks on the measured samples. One may observe also that the crystallization starts at the surface of other crystals. The rectangular shape of the small crystallites on the bigger ones confirms that the growth is the fastest in the *a* direction.



**Figure S1** SEM images of [2PyAla][ClO<sub>4</sub>] crystals at the magnification of 55 (a), 470 (b) and 6500 (c) times. The inset in the (b) is the magnification of the area marked by a circle. The coordinate system presents the orientation of the crystal, note that all axes are perpendicular one to another.