

**Supplementary data for paper: Formation of  $M_4Se_4$  cuboids ( $M = As, Sb, Bi$ ) via secondary pnictogen–chalcogen interactions in the co-crystals  $MX_3.SeP(p-FC_6H_4)_3$  ( $M = As, X = Br; M = Sb, X = Cl; M = Bi, X = Cl, Br$ ).**

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Structure	F...F / Å	F...H / Å
$AsBr_3.SeP(p-FC_6H_4)_3, \mathbf{2}$	2.899(16)	2.57
$SbCl_3.SeP(p-FC_6H_4)_3, \mathbf{3}$	2.897(14)	2.60
$BiCl_3.SeP(p-FC_6H_4)_3, \mathbf{5}$	2.924(11)	2.53
$BiBr_3.SeP(p-FC_6H_4)_3, \mathbf{6}$	2.972(11)	2.57

**Table S1** Short F···F and F···H contacts in the structures of **2**, **3**, **5** and **6**.