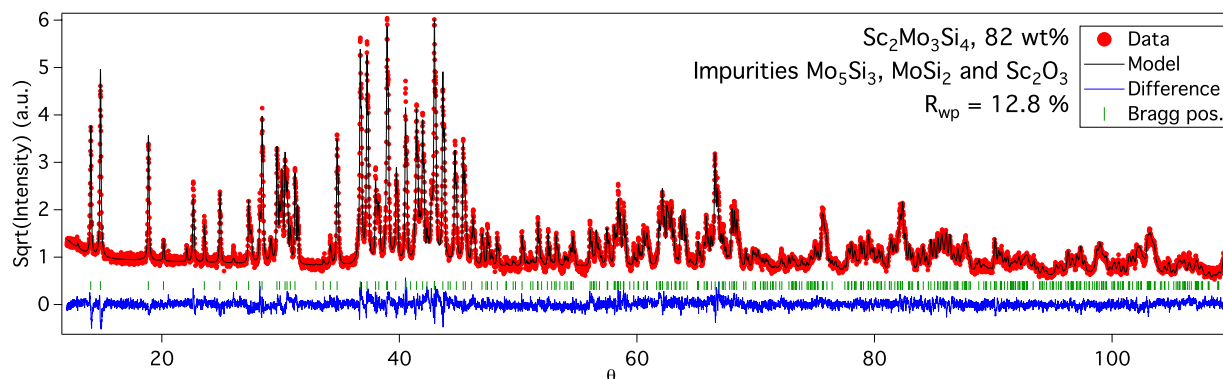
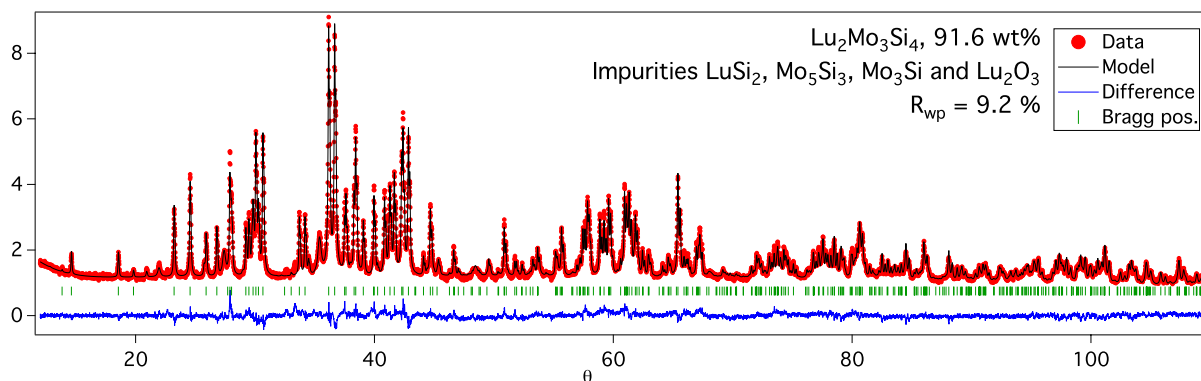


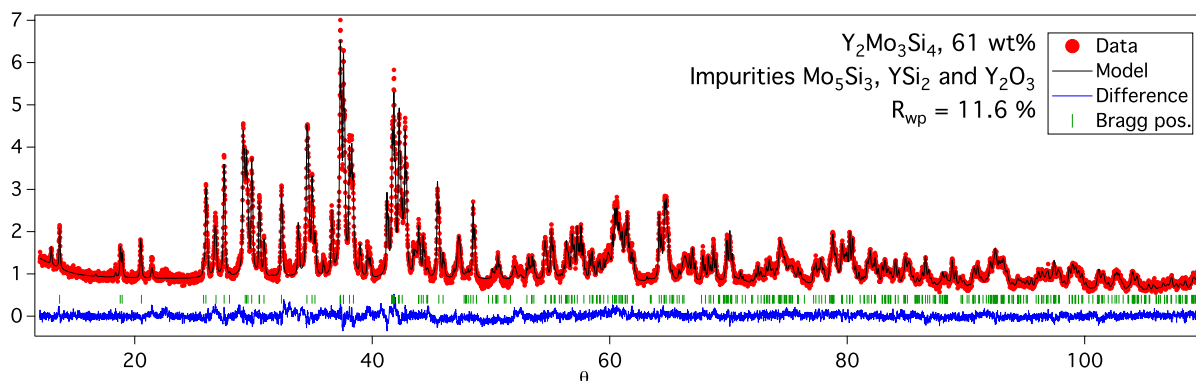
# 1 Electronic Supplementary Information



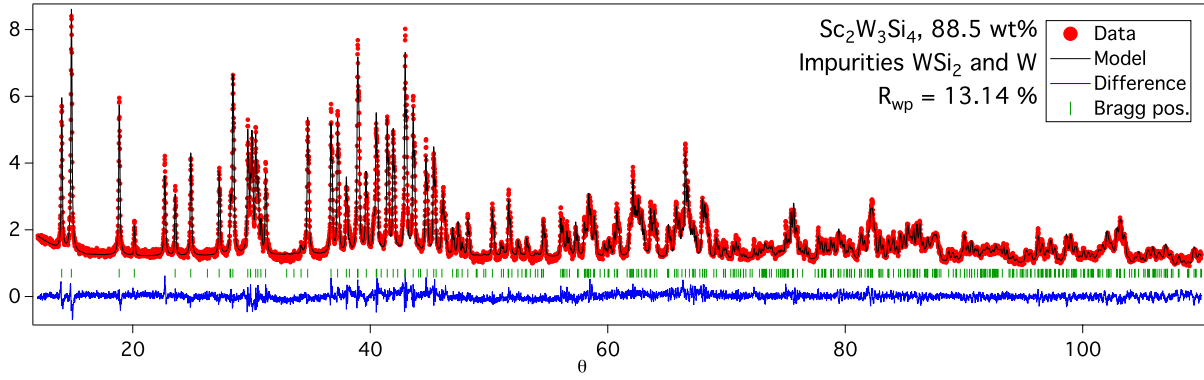
2  
3 Figure S1 –  $\text{Sc}_2\text{Mo}_3\text{Si}_4$ . The Rietveld refinement of  $\text{Sc}_2\text{Mo}_3\text{Si}_4$  (82 wt%) along with the three  
4 impurity phases  $\text{Mo}_5\text{Si}_3$  (6 wt%),  $\text{MoSi}_2$  (9 wt%) and  $\text{Sc}_2\text{O}_3$  (3 wt%). For clarity, only the main  
5 phase Bragg positions are indicated.



7  
8 Figure S2 –  $\text{Lu}_2\text{Mo}_3\text{Si}_4$ . The Rietveld refinement of  $\text{Lu}_2\text{Mo}_3\text{Si}_4$  (92 wt%) along with the impurity  
9 phases  $\text{LuSi}_2$  (4.3 wt%),  $\text{Mo}_5\text{Si}_3$  (1.5 wt%),  $\text{Mo}_3\text{Si}$  (1.5 wt%) and  $\text{Lu}_2\text{O}_3$  (1.1 wt%). For clarity,  
10 only the main phase Bragg positions are indicated.



13 Figure S3 –  $\text{Y}_2\text{Mo}_3\text{Si}_4$ . The Rietveld refinement of  $\text{Y}_2\text{Mo}_3\text{Si}_4$  (61 wt%) along with the three  
 14 impurity phases  $\text{Mo}_5\text{Si}_3$  (21 wt%),  $\text{YSi}_2$  (10 wt%) and  $\text{Y}_2\text{O}_3$  (8 wt%). For clarity, only the main  
 15 phase Bragg positions are indicated.



16

17 Figure S4 –  $\text{Sc}_2\text{W}_3\text{Si}_4$ . The Rietveld refinement of  $\text{Sc}_2\text{W}_3\text{Si}_4$  (88.5 wt%) along with the two  
 18 impurity phases  $\text{WSi}_2$  (10.8 wt%) and W (0.7 wt%). For clarity, only the main phase Bragg  
 19 positions are indicated.

20