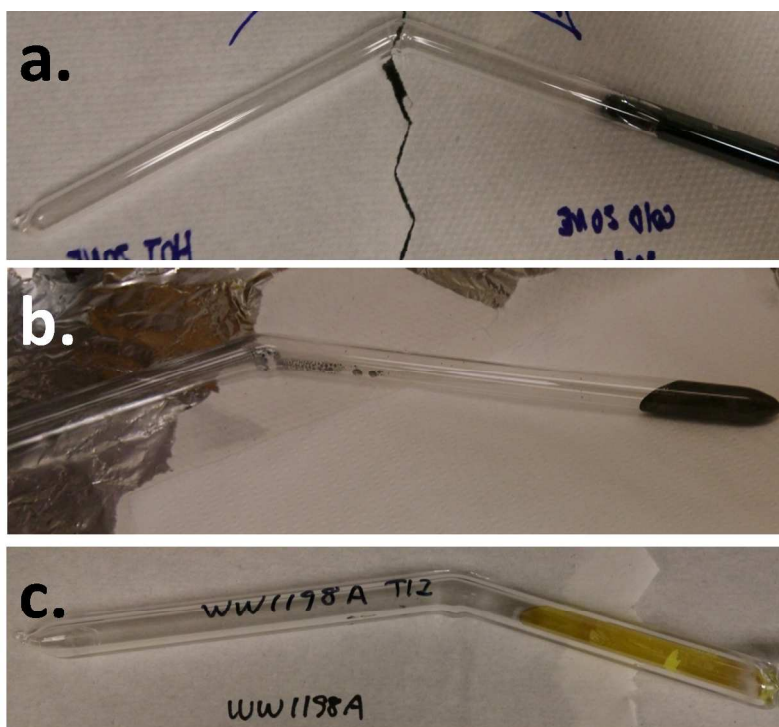


## Supporting Information

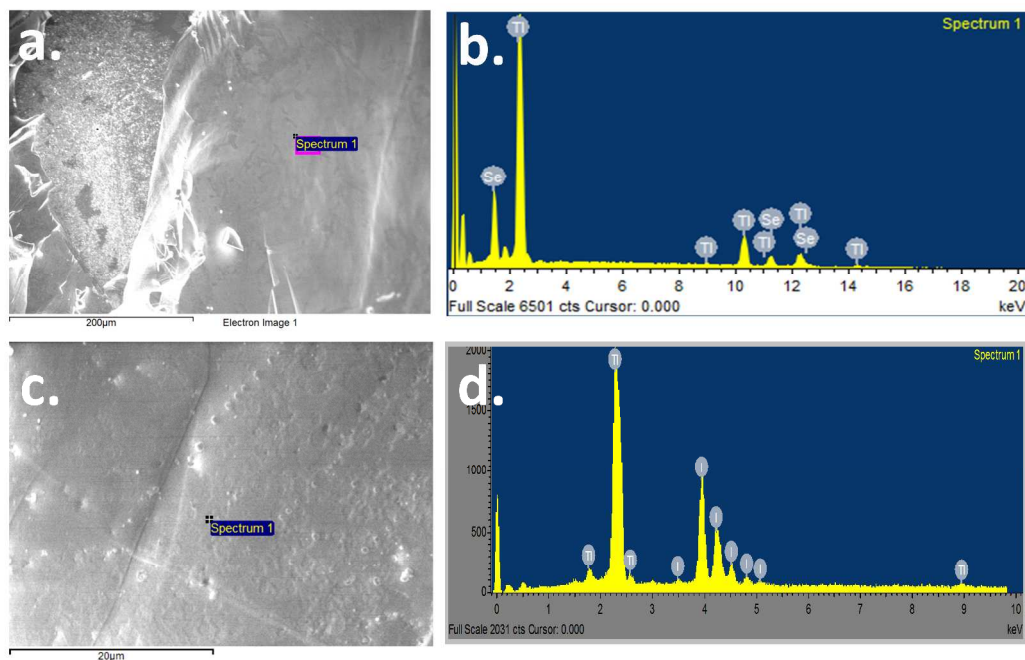
### An Effective Purification Process for the Nuclear Radiation Detector $\text{Tl}_6\text{SeI}_4$

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**Figure S1.** (a) Purified Se precursor. (b) Purified  $\text{Tl}_2\text{Se}$  precursor. (c) Purified  $\text{TlI}$  precursor.



**Figure S2.** (a) SEM image of purified  $\text{Tl}_2\text{Se}$ . (b) Compositional analysis on purified  $\text{Tl}_2\text{Se}$  by EDS (Tl atomic% is 67.13%, Se atomic% is 32.87%). (c) SEM image of purified  $\text{TlI}$ . (d) Compositional analysis on purified  $\text{TlI}$  by EDS (Tl atomic% is 49.94%, I atomic% is 50.06%).