## **Supplementary Materials**

Detailed information concerning quantitative report of  $Si_3N_4$ ,  $C_{0.3}N_{0.7}Ti$ , and SiC are illustrated as follow:

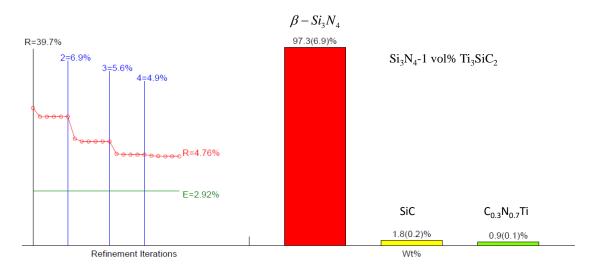


Figure S1. Quantitative report of Si<sub>3</sub>N<sub>4</sub>-1 vol.% Ti<sub>3</sub>SiC<sub>2</sub>.

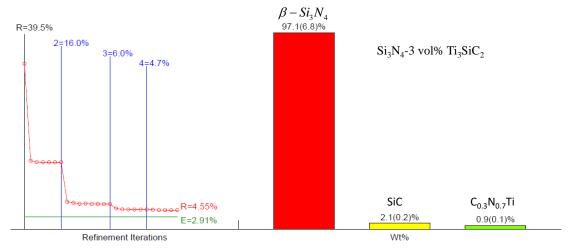


Figure S2. Quantitative report of Si<sub>3</sub>N<sub>4</sub>-3 vol.% Ti<sub>3</sub>SiC<sub>2</sub>

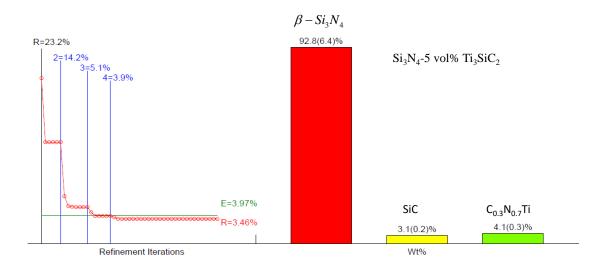


Figure S3. Quantitative report of Si<sub>3</sub>N<sub>4</sub>-5 vol% Ti<sub>3</sub>SiC<sub>2</sub>.

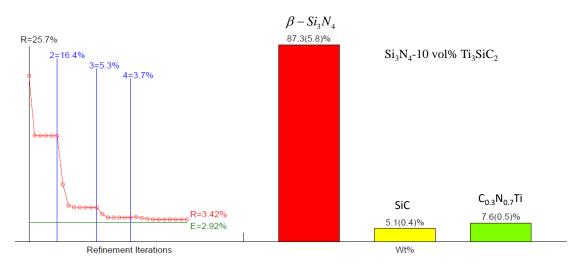


Figure S4. Quantitative report of Si<sub>3</sub>N<sub>4</sub>-10 vol.% Ti<sub>3</sub>SiC<sub>2</sub>

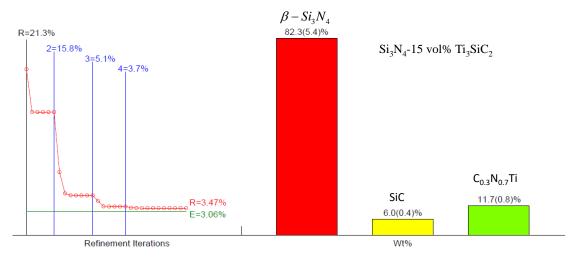
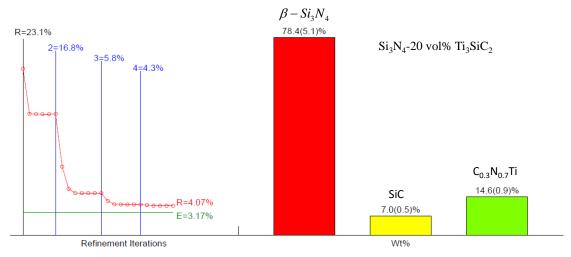


Figure S5. Quantitative report of Si<sub>3</sub>N<sub>4</sub>-15 vol.% Ti<sub>3</sub>SiC<sub>2</sub>.



**Figure S6.** Quantitative report of Si<sub>3</sub>N<sub>4</sub>-20 vol.% Ti<sub>3</sub>SiC<sub>2</sub>.