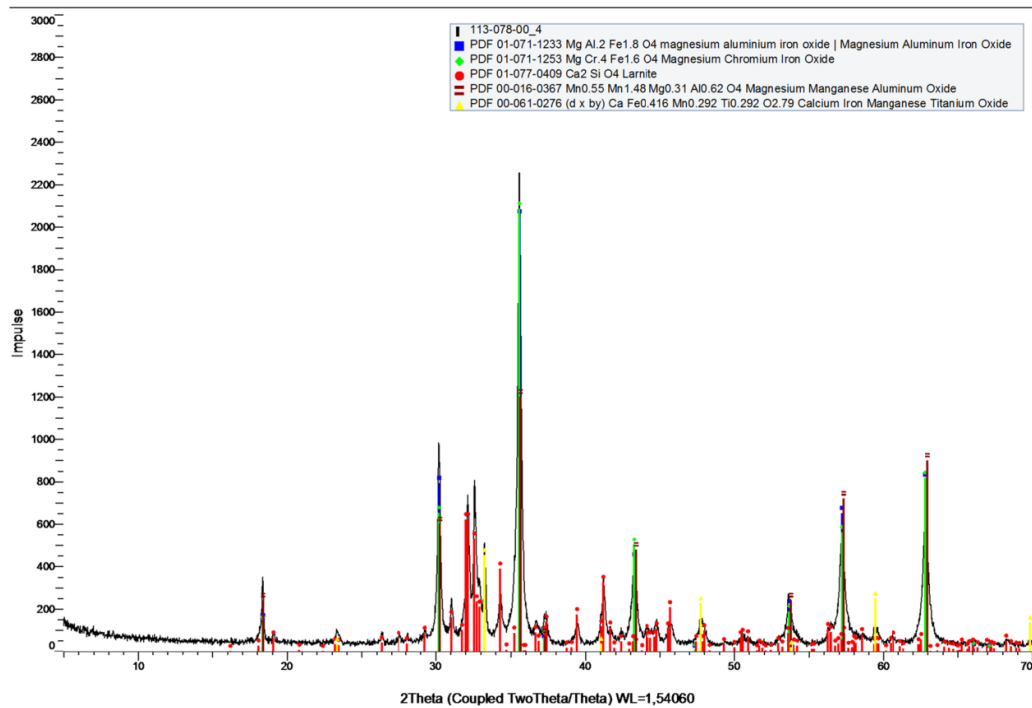


## Supplementary Materials:



**Figure S1.** Air-circulation chamber furnace (left), water injection device (top right) and sample pieces and powder in the chamber with thermocouples (bottom right).

## E 4.30 Z



**Figure S2.** X-ray diffraction (XRD) pattern of the cycled powder made of sintered slag pebbles.

## E 4.30

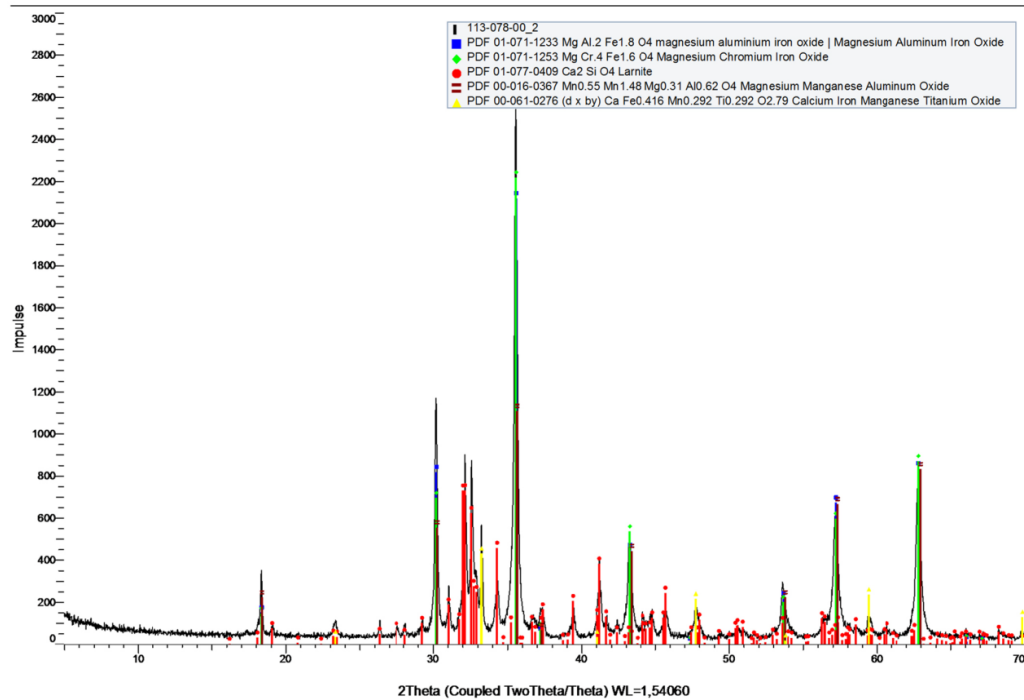


Figure S3. X-ray diffraction (XRD) pattern of the non-cycled powder made of sintered slag pebbles.

## RSPZ

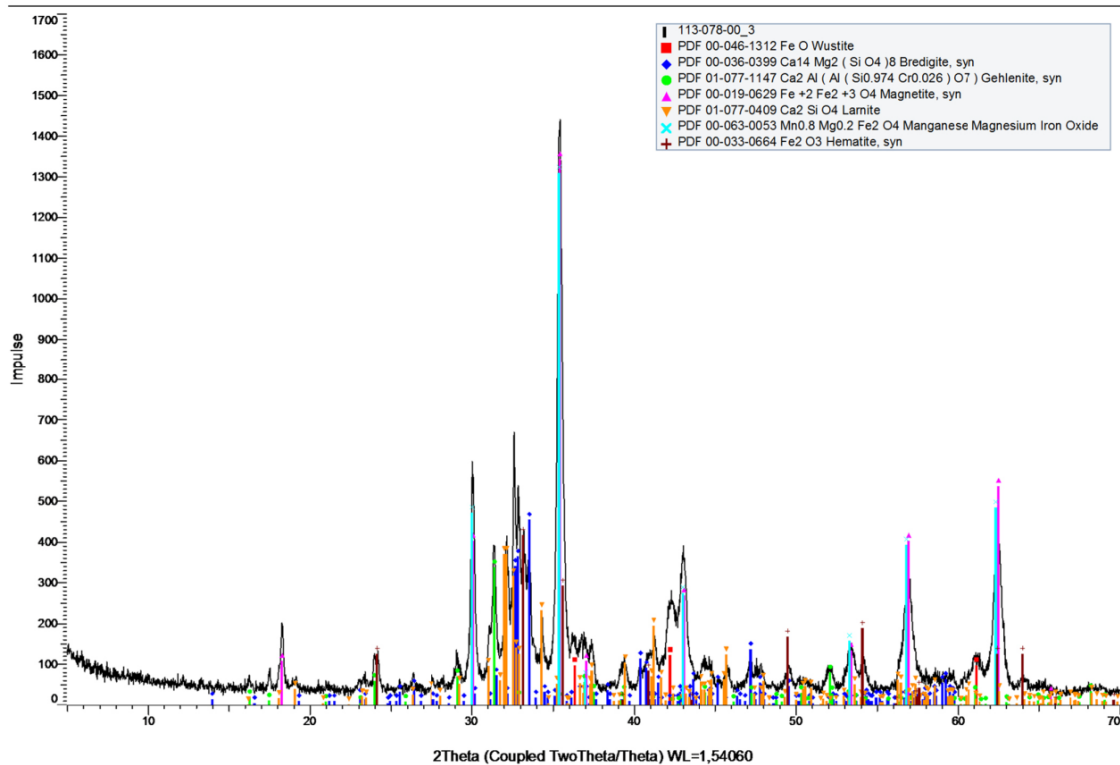


Figure S4. X-ray diffraction (XRD) pattern of the cycled powder made of raw slag.

RSP

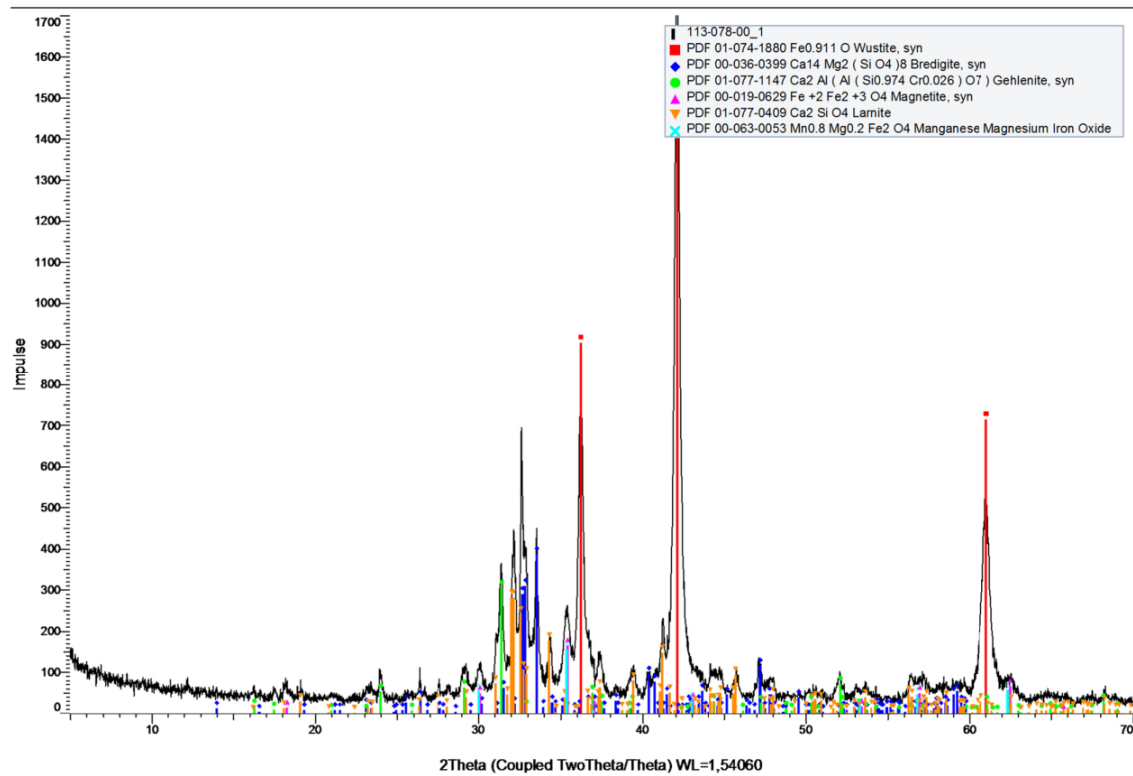


Figure S5. X-ray diffraction (XRD) pattern of the non-cycled powder made of raw slag.