**Response to editor**

1. It is not clear what is „magnesite slag“. There is just one information about it in the experimental procedure: “The magnesite slag was supplied by Shandong Laizhou Magnesium mine”.  Is it waste obtained during magnesite (MgCO3) production or during magnesium (Mg) production? By definition, slag is the glass-like by-product left over after a desired metal has been separated (i.e., smelted) from its raw ore. Please, add some information about the magnesite slag.

**Answer:** The slag is a kind of waste from the process of magnesite smelting to achieve metal Mg by Si-thermal-reduction method. It was added in second paragraph of Section Introduction

2. "temperature improving" should be "temperature increasing"
 **Answer:** "temperature improving" has been changed to "temperature increasing"

3. "The XRD comparisons of the magnesite calcined at 3 h, 4 h, 5 h, 6 h ...". I suppose it should be "The XRD comparisons of the magnesite slag calcined at 3 h, 4 h, 5 h, 6 h..."

**Answer:** The sentence has been corrected.

 4. Peaks at the XRD patterns should be labeled (to which crystalline phase are attributable)

**Answer:** Peaks at the XRD patterns have been labeled in Figure 9.

5. Correct the sentence "Compared to the previous work, the slag as a waste, has better performance on CO2 capture.." like: "The slag obtained as a waste during (what?) production, has better performance on CO2 caprure in comparison to magnesite.."

**Answer:** The sentence has been corrected to “The slag obtained as a waste during the metal Mg production, has better performance on CO2 capture in comparison to magnesite”.