

Response to Reviewer 2 Comments

1. Summary

Thank you very much for taking the time to review the manuscript “**Structure, Function, and Application of MOFs: A Comprehensive Review from Synthesis to Gas/Liquid Phase Adsorption**” by C.K. Rojas-Mayorga et al. The comments are answered below. Reviewer’s comment is followed by our response in **red font** and includes a description of taken action. In the revised manuscript, the additions made are shown in **red font** for easy reference.

2. Questions for General Evaluation

Reviewer’s Evaluation

Is the work a significant contribution to the field?	★ ★ ★ ★ ☆
Is the work well organized and comprehensively described?	★ ★ ★ ★ ★
Is the work scientifically sound and not misleading?	★ ★ ★ ★ ☆
Are there appropriate and adequate references to related and previous work?	★ ★ ★ ★ ☆
Is the English used correct and readable?	★ ★ ★ ★ ★

3. Point-by-point response to Comments and Suggestions for Authors

Comments 1: Citation format needs to be corrected to match with MDPI guidelines.

Response 1: Thank you for the comment. The citation format has been corrected as requested.

Comments 2: Page 22 line 787, “REF” missing a reference citation.

Response 2: Thank you for the comment. The reference has been added to the manuscript.

Comments 3: In section 7.5, the author briefly mentioned multiple adsorption cycles, may the author discuss more about the re-use of MOF as adsorbent, methods and mechanisms. This is highly related to stability and cost effectiveness.

Response 3: Thank you for the observation. In Section 7.2, information regarding regeneration methodologies and MOF reusability cycles has recently been added; consequently, these aspects are no discussed in depth in Section 7.5.

Comments 4: Section 7.2, “Stability in real conditions” is one of the major challenges. The manuscript would be strengthened by including supporting stability data.

Response 4: Thank you for the comment. Section 7.2 has been revised to integrate information regarding MOF stability, regeneration, and reusability. Furthermore, relevant references on adsorption-desorption cycles have been included.