Diego Muñoz-Gacitúa Facultad de ciencias Universidad de Chile Las Palmeras #3425, Ñuñoa, Chile

Dear Prof. Schroer

We are greateful for your consideration of our manuscript titled "Characterization and validation of a membrane mimetic with magnetic orienting capabilities and high phospholipid content" to be published in The Journal of Molecular Liquids as a full article.

We would also like to extend our thanks to both of the reviewers, who have taken their time to give such a deep and extensive review of our work.

Regarding the observations both of the reviewers, we have made multiple changes to our manuscript in order to amend the issues found by the reviewers, as follows:

• Reviewer 1 said: ...

We Agree, fatty acids are not present by themselves in the membrane, but rather as a fragment of bigger lipids such as glycolipids, shpingolipids and phospholipids among others. And thus, we have changed the phrasing from "...mainly phospholipids and containing fatty acids, sugars, cholesterol and proteins, among others." to "mainly phospholipids among other lipids and also containing sugars, cholesterol and proteins, among others."

\bullet Reviewer 1 said: ...

We have not made ourselves clear in this regard. When we wrote "inner interface" we meant the area inside the bilayer that is closer to the interface. And in that regard, the results by Martin *et al.* show that Benzocaine is indeed located in this area at equilibrium. We modified all mentions of "inner interface" to reflect what we actually meant.

• Reviewer 1 said: tamaño de la bicela

• Reviewer 1 said: ...

We agree, and we have modified such sections to include the role of phospholipids in the phase stability.

Finally, we would like to thank you for taking your time to revise our manuscript,

even through these difficult times.

Sincerely,

Diego Muñoz-Gacitúa