Dear Editors and Reviewers,

We would like to thank you for the unanimous interest you showed for our study. The theoretical and analytical advice and criticism have helped us reshape the manuscript in a way which we hope will make it more conceptually and biologically relevant.

Important changes have been made in the Introduction, in which we added more details on our reasoning behind the idea of optimal asymmetry (lines 100-120), as asked by Reviewer 2. In addition, we have reworded the following paragraphs, including hypotheses and expectations (lines 122-171), so as to (hopefully) clarify and rectify our meaning behind modularity and integration, and how the covariation patterns observed may relate to those.

Regarding the analyses and results, we opted to remove the sections using “module by module” superimposition, as suggested by Dr. Collyer and Dr. Zelditch. While we did not want to appear dismissive of this recent literature, we also agree that these additional analyses somewhat disrupted the flow of the manuscript.