

# Interactions and Reactivity in Crystalline Intermediates of Mechanochemical Cyclorhodation Reactions

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## Supplementary information

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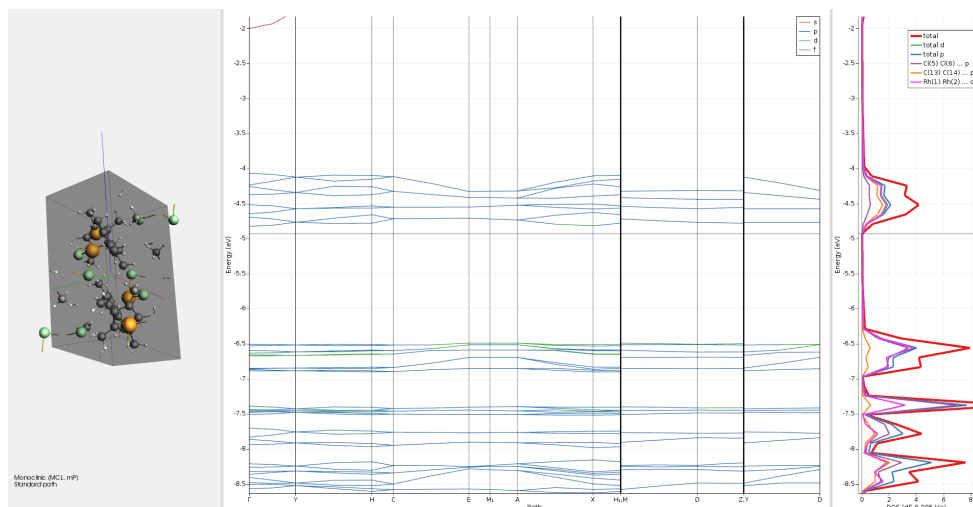
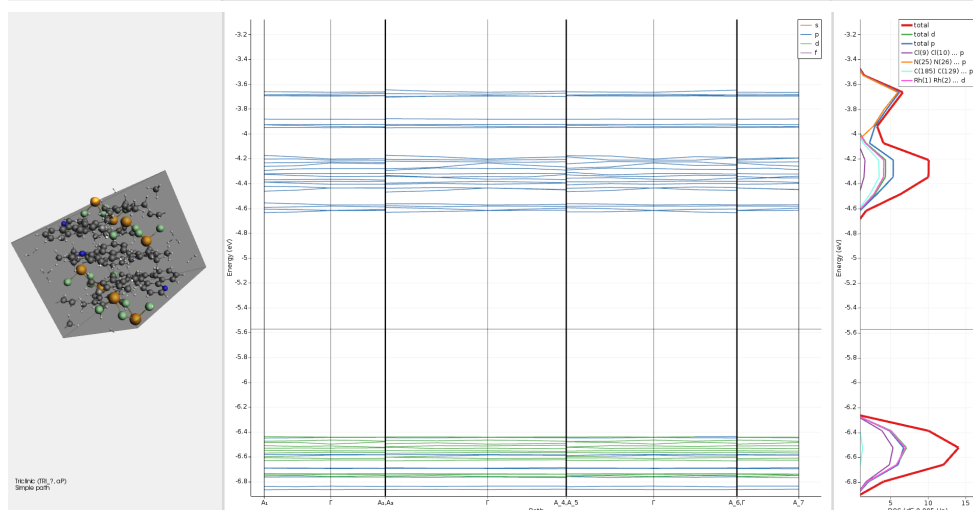
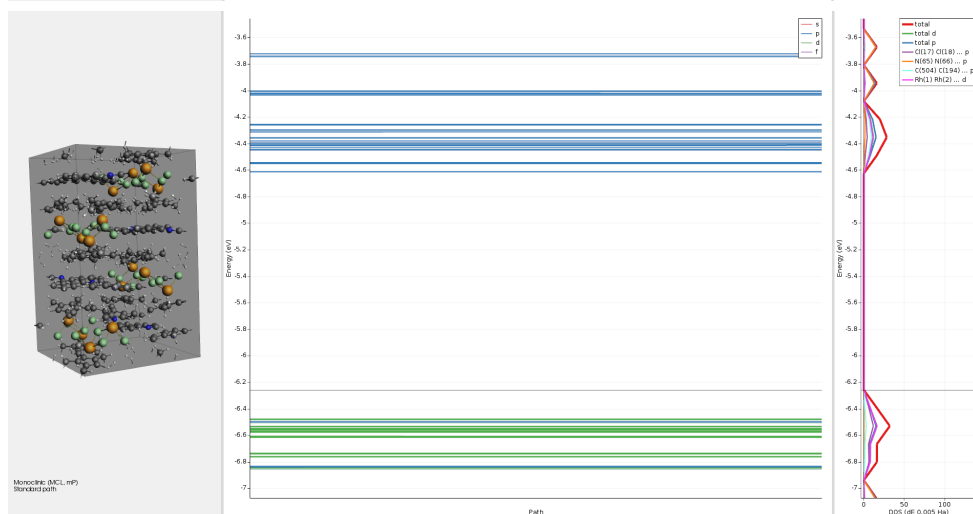
Rh Dimer, **1****4 $\alpha$** **4 $\beta$** 

Figure S1: Band structure and Density of states (DOS) of the rhodium dimer, **1** (top), **4 $\alpha$**  (middle) and **4 $\beta$**  (bottom) with their corresponding dominant character. The Fermi level is plotted as a horizontal gray line in all the cases. All calculations using the AMS-BAND program[1]

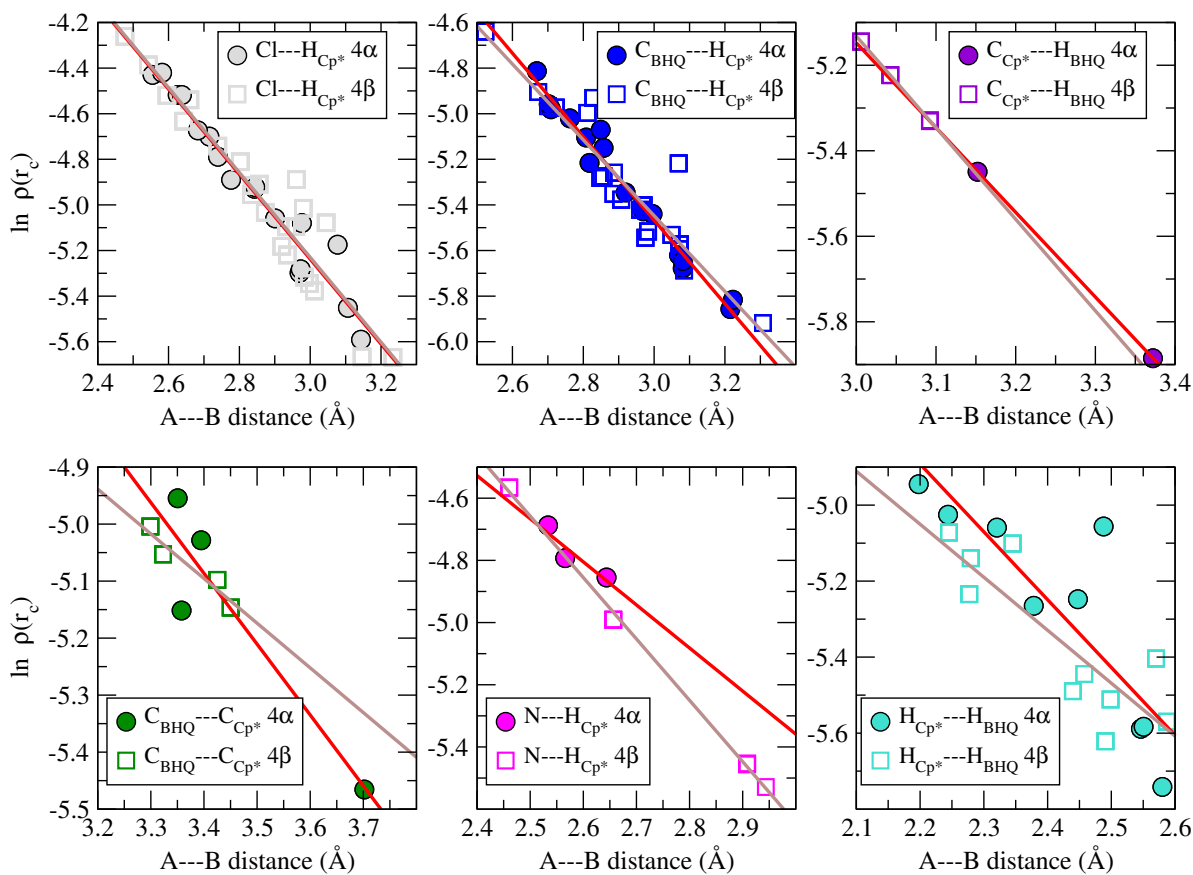


Figure S2: Logarithmic relationships for  $[\mathbf{r}, \rho(\mathbf{r}_c)]$ ,  $\mathbf{r}$  being the length of the contacts in the subsets of the Cl $\cdots$ H, C $\cdots$ H, C $\cdots$ C, N $\cdots$ H and H $\cdots$ H interactions found with the topological QTAIM analysis (see Table 4 in the main text). Linear regression for  $4\alpha$  in red, for  $4\beta$  in brown.

## References

- [1] P. Philipson, G. te Velde, E. Baerends, J. Berger, P. de Boeij, M. Franchini, J. Groeneveld, E. Kadantsev, R. Klooster, F. Kootstra, M. Pols, P. Romaniello, M. Raupach, D. Skachkov, J. Snijders, C. Verzijl, J. Celis Gil, J. M. Thijssen, G. Wiesenekker, C. A. Peeples, G. Schreckenbach, and T. Ziegler, “Band (*version 2022.102*), software for chemistry & materials, scm,” 2022. Theoretical Chemistry, Vrije Universiteit, Amsterdam, The Netherlands.