

Referee 1 Significant general interest (top 25% of the field - suitable for publication in ChemComm)

This is a nice contribution by Stephan et al., which describes the synthesis of a series of bimetallic complexes (Zr, V, Ni) supported by bridging diphosphate ligand. Some complexes have been characterized using XRD analysis and Reaction mechanism was well discussed by means of DFT calculations. Both experimental and computational part are well carried out and the article is well outlined. Therefore, the referee recommends this paper for the publications in Chem Commun. Followings are some points need to be considered for minor revisions:

- 1) Some introduction phrase for the motivation of using (C₆Cl₆O₂) backbone could be added. For example, electronic effect, synthetic availability, etc.
- 2) Proposed reaction mechanism: any concerns on the metal center effect? Also, metal center bears different leaving group (Cl for V & Ni, I for Ni) that could influence on the pathway/activation barrier.
- 3) IN₂ could be observed by NMR? For instance, ³¹P NMR can be used for monitor the reaction. Alternatively, depends on metal center and/or ligand at P (i.e. OR) this might be isolable.
- 4) Some typos were found in the main text.

Referee 2 Significant general interest (top 25% of the field - suitable for publication in ChemComm)

This is an interesting manuscript describing the use of a new ligand that supports formation of dimeric dimetallic structures. The compounds are new and are comprehensively characterized. The data is convincing and the report is worthy of publication. However, I am not convinced that the results and conclusions are worthy of publication as a communication.

Referee: 3 (adjudicator)

Comments to the Author

report several dimeric metal compounds incorporating phosphate-catecholate chelating ligands. The compounds may be potential in catalysis and others. The paper may be published in ChemComm after further improvements.

1. FT-IR data should be provided for the compounds.
2. MS data should be provided for the compounds to show what the species are in solution (dinuclear or not).