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R-P Bridged Clusters: A Study of Metal-Metal Bond Reactivity

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R-P Bridged Clusters: A Study of Metal-Metal Bond Reactivity

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RP groups are useful cluster constituents: They warrant a detailed analysis of cluster reactions even in those cases where metal-metal bonds break and where, without these linking groups, the clusters would desintegrate.

This statement is verified by the preparative and kinetic analysis of addition and substitution reactions of the types shown below.

$$(A) \xrightarrow{P} \xrightarrow{100 \text{ kJ mol}^{-1}} \xrightarrow{\text{lock J mol}^{-1}} \xrightarrow{\text{lock J$$

The two prominent results of this analysis hence are:

- Closed clusters are in equilibrium with their valence tautomeric open form (A).
- Substitution reactions occur via an addition elimination sequence (B).