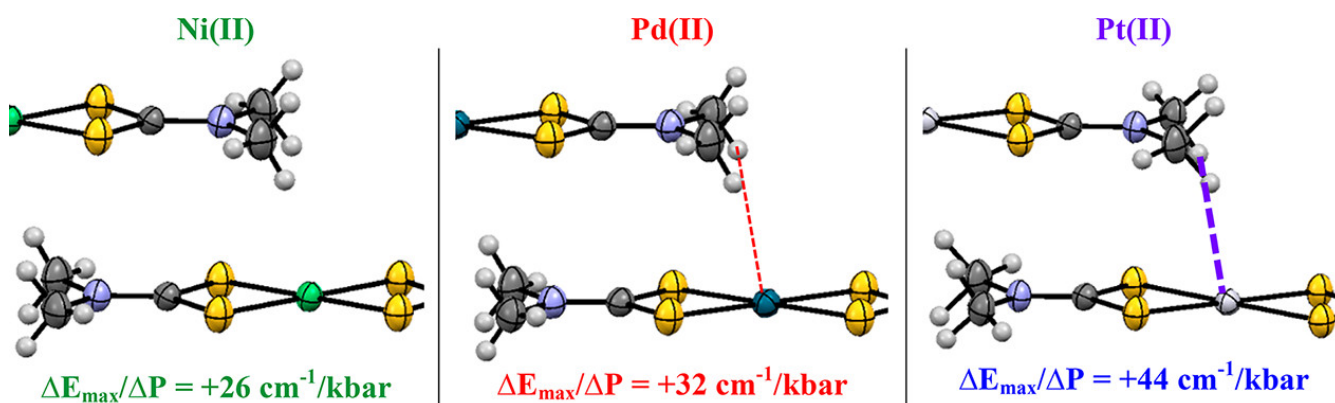


## Luminescence properties of square-planar $d^8$ complexes: electronic structure and intermolecular interactions at variable pressure

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Recent progress in both data quality and theoretical models has led to a renaissance of detailed optical spectroscopy relevant to many areas of inorganic photochemistry and materials chemistry. Square-planar complexes of gold(III), platinum(II), palladium(II) and nickel(II) with nondegenerate ground states[1,2] show surprising wavelength variations of their luminescence band maxima. Variations of luminescence spectra at variable temperature and pressure provide a quantitative handle on the influence of structural properties, molecular excited-state properties[3] and intermolecular effects[4] on luminescence properties for different types of electronic transitions. The comparison of isoelectronic metal centers and similar structures allows a detailed characterization of these effects on ground and emitting states, key information the design of luminescent solids and for understanding interactions involving excited states.



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