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Study on the Activity of Cadmium and its Compounds as Air Pollutants JAE WOO KUH, JAEMIN CHOUNG, ANDREW KYUNG, CRG-NJ — Heavy metals such as manganese and cadmium are ubiquitous air pollutant which are increasing in the environment. Air pollutants are responsible for genotoxic events related to many disease processes, including carcinogenesis, that are often attributed to poorly-detected air pollutants. Also, several non-standard forms of Parkinsonism may be associated with occupational exposure to cadmium, manganese and other heavy metals in air pollutants. The toxicity concerns regarding cadmium are limited since the exposure to the cadmium is known due to ingestion primarily. However, a recent research shows that exposure to the air is far more potent since the biologic effects of this highly mobile metal was identified. In this paper, the activity of cadmium with different compounds was evaluated by physical and computational chemical simulation which measures the optimized geometries and chemical properties of the modeled structures by using theoretical values and considering the molecules atomic properties.

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