

A Short Review on Different Bridging Mode of Azide Ion

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Abstract: *The azide ion (N_3^-) serves as a versatile bridging ligand in coordination chemistry, particularly in transition metal complexes, due to its diverse coordination modes. The most common are end-on (EO or $\mu-1,1$), where it binds through one nitrogen atom to two metals, and end-to-end (EE or $\mu-1,3$), linking metals via terminal nitrogens. Less frequent modes include $\mu-1,1,1$, $\mu-1,1,3$, and higher denticity variants. These modes enable formation of polynuclear structures, from dinuclear to 2D/3D networks. Magnetically, EO bridging typically induces ferromagnetic coupling, while EE promotes antiferromagnetic interactions (though angle-dependent reversals occur). This review highlights different bridging modes of azide ion.*

Keywords: Ligand, polynuclear, bridging.