

Synthesis and coordination of various phenylisocyanide ligands for dimerization of linear alpha olefins

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The study and practice of organic chemistry focuses heavily on molecules called Hydrocarbons which take various forms, depending on the type of bond between carbon atoms (single, double, triple, etc.) One particular type of hydrocarbon molecule is called an Alkene which has a double carbon bond and example is a linear alpha olefin. This is used as a precursor of various products such as lubricants, detergents, shampoos, etc. Because this alkene is “linear” rather than “branched”, however, it breaks down in nature after use much more quickly. Hydrocarbons (combinations of hydrogen and carbon atoms) occur naturally in crude oil produced by the

1. Broese, R. D.; Brookhart, M.; Lamanna, W. M.; Volpe, A. F. Cobalt-Catalyzed Dimerization of α -Olefins to Give Linear α -Olefin Products. *Journal of the American Chemical Society* 227 (49),17194-17195. †

2. †W.M (Ph)††: Synthesis of a Phenylisocyanide Ligand and Its Coordination to a Cobalt-based Catalyst for the Dimerization of Linear α -olefins, 2016.