

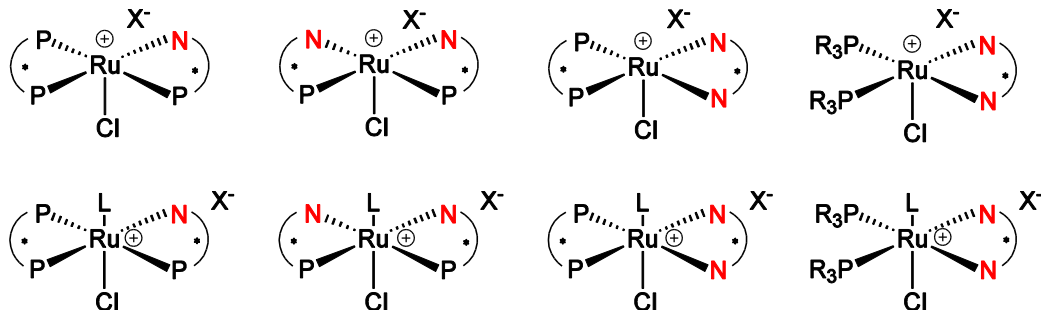


## Cationic Ru Catalysts for Hydrogenation

Ruthenium (Ru) catalysts are the preferred systems for hydrogenation of ketones and imines because of their high activity and selectivity. Kanata Chemical Technologies has recently developed new classes of cationic Ru catalysts for hydrogenation (using H<sub>2</sub>) and transfer hydrogenation (using H<sub>2</sub> surrogates such as 2-propanol) with increased air-stability and shelf-life. In addition, the solubility of the catalysts can be fine-tuned by selecting the appropriate anion.

### Standard Hydrogenation

Kanata Chemical Technologies recently developed new classes of cationic Ru catalysts using various ancillary ligands including phosphines, diphosphines, aminophosphines, diamines, aminopyridines, and diaminodiphosphines.

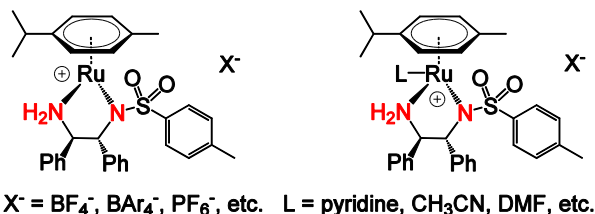


$X^- = \text{BF}_4^-, \text{BAR}_4^-, \text{PF}_6^-, \text{etc.}$   $L = \text{pyridine, CH}_3\text{CN, DMF, etc.}$

Similar to their neutral analogs, high substrate-to-catalyst ratios ( $10^4$  to  $10^6$ ) are observed with typical 100% conversion. In addition, a wide range of functional groups are tolerated and high stereoselectivities are obtained (>98% ee). With our diverse library of ancillary ligands, we can provide you with an unprecedented number of catalyst systems to maximize your HTS success.

### Transfer Hydrogenation

Kanata Chemical Technologies recently developed a new class of Ru arene tosyldiamine salts. Similar to their neutral analogs, high stereoselectivities are obtained. This new class of cationic catalysts represents the premier system for asymmetric transfer hydrogenation.



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For additional information on our cationic Ru catalysts, please contact us at [chemistry@kctchem.com](mailto:chemistry@kctchem.com).