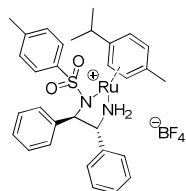
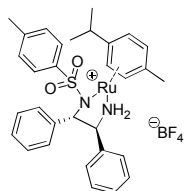




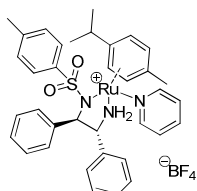
## Cationic Ruthenium Arene Catalysts



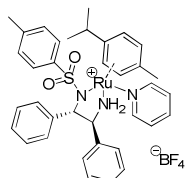
**K44-0107**  
**Ru(*p*-cymene)[(R,R)-TsDPEN]BF<sub>4</sub>, ≥97.0%**  
**[[[(1R,2R)-2-amino-1,2-diphenylethyl](tosyl)-amido](*p*-cymene)ruthenium(II)-tetrafluoroborate**  
 C<sub>31</sub>H<sub>35</sub>BF<sub>4</sub>N<sub>2</sub>O<sub>2</sub>RuS; F.W: 687.60



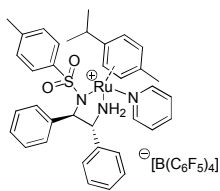
**K44-0117**  
**Ru(*p*-cymene)[(S,S)-TsDPEN]BF<sub>4</sub>, ≥97.0%**  
**[[[(1S,2S)-2-amino-1,2-diphenylethyl](tosyl)-amido](*p*-cymene)ruthenium(II)-tetrafluoroborate**  
 C<sub>31</sub>H<sub>35</sub>BF<sub>4</sub>N<sub>2</sub>O<sub>2</sub>RuS; F.W: 687.60



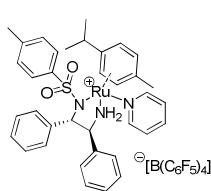
**K44-0112**  
**Ru(*p*-cymene)(Py)[(R,R)-TsDPEN]BF<sub>4</sub>, ≥97.0%**  
**[[[(1R,2R)-2-amino-1,2-diphenylethyl](tosyl)-amido](*p*-cymene)(pyridine)ruthenium(II)-tetrafluoroborate**  
 C<sub>36</sub>H<sub>40</sub>BF<sub>4</sub>N<sub>3</sub>O<sub>2</sub>RuS; F.W: 766.70



**K44-0119**  
**Ru(*p*-cymene)(Py)[(S,S)-TsDPEN]BF<sub>4</sub>, ≥97.0%**  
**[[[(1S,2S)-2-amino-1,2-diphenylethyl](tosyl)-amido](*p*-cymene)(pyridine)ruthenium(II)-tetrafluoroborate**  
 C<sub>36</sub>H<sub>40</sub>BF<sub>4</sub>N<sub>3</sub>O<sub>2</sub>RuS; F.W: 766.70



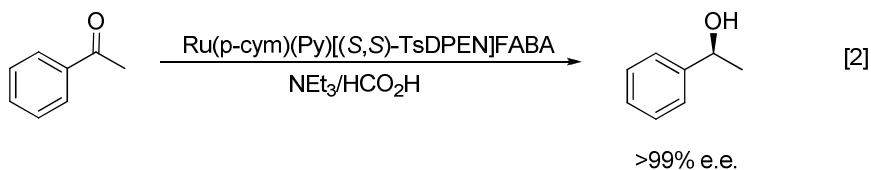
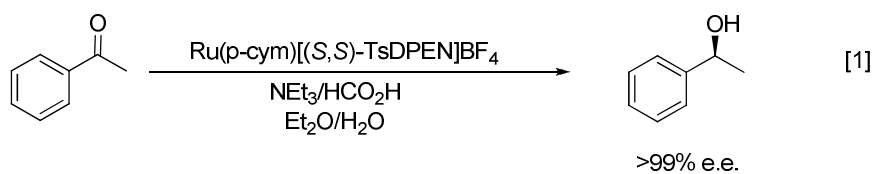
**K44-0115**  
**Ru(*p*-cymene)(Py)[(R,R)-TsDPEN]FABA, ≥97.0%**  
**[[[(1R,2R)-2-amino-1,2-diphenylethyl](tosyl)-amido](*p*-cymene)(pyridine)ruthenium(II)-tetrakis(pentafluorophenyl)borate**  
 C<sub>60</sub>H<sub>40</sub>BF<sub>20</sub>N<sub>3</sub>O<sub>2</sub>RuS; F.W: 1358.90



**K44-0120**  
**Ru(*p*-cymene)(Py)[(S,S)-TsDPEN]FABA, ≥97.0%**  
**[[[(1S,2S)-2-amino-1,2-diphenylethyl](tosyl)-amido](*p*-cymene)(pyridine)ruthenium(II)-tetrakis(pentafluorophenyl)borate**  
 C<sub>60</sub>H<sub>40</sub>BF<sub>20</sub>N<sub>3</sub>O<sub>2</sub>RuS; F.W: 1358.90

The catalytic transfer hydrogenation of ketones and imines using 2-propanol or formic acid as the hydrogen source can be promoted by various transition metal complexes. As an alternative to the well-established neutral Ru(II) catalysts based on complexes of monotosylated diamines, Kanata Chemical Technologies has developed a class of cationic arene ruthenium catalysts for asymmetric transfer hydrogenation with increased air-stability and shelf-life. In addition, the solubility can be fine-tuned by selecting the appropriate anion. Some representative examples are depicted in reactions 1-3.

### Enantioselective Transfer Hydrogenation of Ketones:



### Enantioselective Transfer Hydrogenation of Imines:

