Chiral Cation–Anion Ligand Pair Directs Highly Selective Remote C–H Activation

**Significance:** Phipps and co-workers report the application of chiral cation–anion ligand pairing in iridium complexes to achieve long-range asymmetric induction for C–H borylation. The reaction proceeds with low catalyst loading, affording the product in good yield with high regio- and enantioselectivity.

**Comment:** The authors propose that the control of enantioselectivity is enabled by the chiral cation employed in the iridium complex. Notably, both phosphorous and carbon stereocenters can be formed, depending on the substrate class employed.

**Selected examples:**

- [Ir(cod)OMe]$_2$ (1.5 mol%) ligand & cation (3.0 mol%) B$_2$pin$_2$ (2.0 equiv), CPME 0 °C–10 °C (up to 0.25 mmol scale)

  15 examples up to 84% yield up to 96% ee

  8 examples up to 80% yield up to 95% ee

**Post-reaction workup/derivatization:**

- H$_2$O$_2$ THF–MeOH r.t.

  77% yield 89% ee

  59% yield 87% ee

  80% yield 92% ee

  63% yield 94% ee

- H$_2$O$_2$ THF–MeOH r.t.

  67% yield 95% ee

  80% yield 88% ee

  65% yield 91% ee

  78% yield 89% ee

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