C–H Arylation with Platinum

Selected examples:

\[
\begin{align*}
\text{MeO-Ph} & \quad 83\% \text{ yield} \\
\text{MeO-Ph} & \quad 48\% \text{ yield} \\
\text{F-Ph} & \quad 52\% \text{ yield} \\
\text{Cl-Ph} & \quad 53\% \text{ yield} \\
\text{Br-Ph} & \quad 58\% \text{ yield}
\end{align*}
\]

\[m/p = 6:1\]

\[m/p = 1.4:1\]

\[m/p = 2.5:1\]

Proposed mechanism:

**Significance:** C–H activation in aryl systems finds broad applicability in the construction of conjugated organic materials. This paper reports the use of a platinum catalyst to couple aryl groups pendant on hypervalent iodine to simple arenes via a C–H activation pathway.

**Comment:** The authors have previously reported a similar process using a palladium catalyst (ACS Catal. 2011, 1, 170). However, with the exception of some examples in which the reaction resulted in mixed isomers, the use of a platinum catalyst produced materials with different selectivity than the palladium catalyst, providing two processes with complementary reactivity.