ALLYLIC C-H ACTIVATION V/S LEAVING GROUP IONIZATION FOR
\(\pi\)-ALLYL PALLADIUM: UNPRECEDENTED BIS-ARYLATION

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An efficient palladium-catalyzed site-selective arylation of \(\gamma\)-vinyl-\(\gamma\)-lactone by aryl boronic acid has been developed. An unprecedented allylic C-H activation\([1]\) based \(\pi\)-allylpalladium formation was observed versus the allylic-OH based leaving group ionization.\([2]\) The mono-arylation by allylic substitution was followed by site-selective second arylation by directed allylic C-H activation giving stereoselectively anti-\(\gamma\)-(aryl,styryl)-\(\beta\)-hydroxy acids. This methodology has been elaborated to synthesize highly substituted tetrahydrofurans including aryl-Hagen’s gland lactone analogues via intramolecular iodoetherification.\([3]\) The insights of this work will be presented in the lecture.

References