

A B S T R A C T

SELECTIVE, CATALYTIC, THERMAL FUNCTIONALIZATION OF
SECONDARY OR AROMATIC C-H CYCLIC HYDROCARBON BONDS

A catalytic process having more than 50 turnovers comprising thermally activating said catalyst in the presence of a functionalizing reagent and a cyclic hydrocarbon comprising an aromatic compound or a cycloparaffin compound lacking primary C-H bonds, said catalyst comprising:

- a) a source of a transition metal;
- b) a source of a 3 to 8; cyclic or non-cyclic, aromatic or non-aromatic, neutral, cationic or anionic, substituted or unsubstituted, electron donor moiety which does not dissociate under thermal reaction conditions, and
- c) a source of ligands capable of formally donating an electron pair to the transition metal a) and which dissociate thermally;

and wherein said functionalizing reagent comprises a source of B, C, N, O, Si, P, S, Ge, As, Al, or Se.

Figure 1