

Copper-containing cage-like structures and their catalytic activity in Chan-Evans-Lam coupling reaction

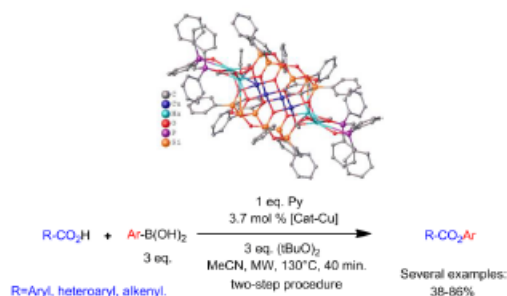
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The cage-like structures based on metallsesquioxanes are attracted the attention of many research groups, because they demonstrate intriguing catalytic properties.¹ In recent years the Chan-Evans-Lam (CEL) coupling reaction, copper-catalyzed interaction of H-nucleophiles (amines, amides, sulfonamides, phenols etc.) and boronic acids, became popular instrument of fine organic synthesis.² Here we show that several copper-based cage-like silsesquioxanes catalyze coupling of boronic acids and carboxylic acids under microwave (MW) conditions. In comparison to published results,³ Cu₄Na₄ complex (Fig. 1) exhibit high catalytic activity on conditions of low loading of copper source and added base.⁴ To the best of our knowledge, this is a first example of CEL reaction by making C-O bond in MW.

Figure 1.



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References

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