Gold-Catalyzed Synthesis of Anthracenes

Selected examples:

Substrate:

Product:

62% yield

68% yield

71% yield

80% yield

Proposed mechanistic pathways:

Significance: The gold-catalyzed synthesis of anthracene derivatives from their corresponding o-alkynyldiarylmethanes is reported. Compared to previously reported syntheses, the presented method is a mild and atom-economic approach that enables access to functionalized anthracenes from a wide substrate scope in good yields.

Comment: In addition to anthracenes, the authors report the synthesis of a tetracene derivative (see above) from a naphthalene-containing substrate, thus demonstrating the potential of this synthetic strategy in the synthesis of functionalized extended acenes.