Sequentially palladium-catalyzed reactions, taking advantage of a single catalyst source in a domino, sequential or consecutive fashion in the same reaction vessel, are among the most elegant tools in organic chemistry. Due to rapid access to highly functionalized molecules the development of a diversity-oriented methodology employing Suzuki coupling and Buchwald-Hartwig amination could be an excellent one-pot synthetic tool for the synthesis of diaryl substituted heterocycles e.g. phenothiazines, carbazoles and indoles. In particular, indole derivatives represent a class of functional compounds that can be used as potential active agents. This methodology would be ideally suited to accompany university screening efforts. The modular construction of structures offers the possibility of rational design and grants a high diversity with regard to fine tuning of a functional product.

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