Desymmetrization can sometimes be a useful strategy in the synthesis of complex molecules by mean of a shortening of the synthetic sequence. We imagined a new strategy based on the observation that a lot of aspidosperma, morphinan or strychnos alkaloids are all made up of a common arylcyclohexane moiety connected to an ethylamino chain through a quaternary stereocenter. In the course of our continuing interest in desymmetrization processes, we envisaged a general strategy to access these different classes of alkaloids by mean of the desymmetrization of arylcyclohexadienes of type.

Our strategy to access these targets is based on a succession of cyclization processes like hydroamination, double Michael addition, palladium oxidative cyclization, intramolecular Mannich reaction, and so on. The versatility of our approach is facilitated by the easy preparation of the precursor arylcyclohexa-2,5-dienes through Birch Reductive Alkylation or 1,3-dione arylation.

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