Syntheses of Sarcandrolide J and Shizukaol D

Significance: Liu and co-workers report the first syntheses of members of the family of lindenane sesquiterpenoid [4+2] dimer family of natural products. Despite their structural similarity, sarcandrolide J and shizukaol D were isolated from different plant species. The bioinspired synthetic strategy relies on a key Diels–Alder cycloaddition.

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Comment: Diels–Alder reaction of dienophile C and the diene generated in situ from D yielded the desired diastereomer F in 83% yield. Intermediate G was subjected to singlet oxygen to afford H after Kornblum–DeLaMare rearrangement. Lactone methylation and acetylation completed the syntheses of sarcandrolide J and shizukaol D, respectively.