

研究论文

De Mayo 光环加成和桥(螺)环倍半萜基本碳架的构建

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摘要 通过炔单萜3-甲基-6-异丙亚甲基环己烯(**1**)和2,6-二氧代戊酸甲酯(**2**)的de Mayo反应,得到[2+2]环加成产物、开环产物和游离基复合产物**3**~**10**.经retro-aldol重排,环加成产物**3**开环生成取代环己烯**4**,在酸和碱性介质中对开环产物进行再环合,经分子内Claisen缩合反应形成螺环和桥环化合物**11**~**14**.

讨论了可能的反应机理,对所得新化合物的结构经IR, ¹H NMR, ¹³C NMR及元素分析予以确定.

关键词 [光环加成](#) [Claisen缩合反应](#) [螺环化合物](#) [桥环化合物](#)

分类号

De Mayo Photocycloaddition and Construction of Basic Framework for Spiro- and Bridged-sesquiterpenes

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Abstract The photocyclo-adducts, the opening products and radical recombination products **3**~**10** were obtained by de Mayo reaction of 3-isopropylidene-6-methylcyclohexene with methyl 2,4-dioxopentanoate. The photocyclo-adduct **3** was subjected to retro-aldol rearrangement to yield the substituted-cyclohexene **4**. In acid or basic condition the recyclization of the opening product was carried out, and spirocyclic and bridged compounds **11**~**14** were obtained by intramolecular Claisen condensation. The reaction mechanisms were discussed and the structures of all compounds were assigned based on the data derived from IR, ¹H NMR ¹³C CMR and elemental analysis.

Key words [photocycloaddition](#) [Claisen condensation](#) [spirocyclic compound](#) [bridged compound](#)

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