

# Additions and Corrections

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**Stan S. Hall\* and Frank J. McEnroe:** Alkylation-Reduction of Carbonyl Systems. IV. The Convenient and Selective Synthesis of Simple and Complex Aromatic Hydrocarbons by Phenylation-Reduction of Aldehydes and Ketones.

Page 271. Column 2. The second paragraph should read

Careful inspection of the products listed in Table I reveals that almost all of these structural features or functional groups were compatible with the conditions of the procedure. The only carbonyl compound that resisted reduction, after phenylation, was menthone (3), which is probably due to steric interactions.<sup>5,12</sup> An example of over-reduction occurred with  $\beta$ -ionone (9). With such a system (see Scheme I), after the initial reduction of the benzyl alcohol,<sup>13</sup> a 1,3-diene system still remains which is vulnerable and reduces, as one would predict,<sup>7</sup> by 1,2-addition to the less substituted double bond. The phenylation-reduction of two  $\alpha,\beta$ -unsaturated ketones, piperitone (7) and 4-cyclo-

hexyl-*trans*-3-buten-2-one (8), led to mixtures of the corresponding olefin and aromatic hydrocarbon, a result which did not change substantially by varying the amount of lithium used for the reduction step. The only carbonyl compound found to be completely incompatible with the reductive conditions was methyl 2-thienyl ketone. Phenylation-reduction of this ketone, which is not included in Table I, led to a complex mixture which was difficult to purify and characterize, but the data on the crude product material did indicate that the thiophene ring was being destroyed.<sup>11b-e</sup>

Page 273. Structure 46 in Scheme II should be

