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### Bacterial Carotenoids XXX.\* 2-Isopentenyl-3,4-dehydro- rhodopin — A C<sub>45</sub>-Carotenoid

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It has been postulated that bacterial C<sub>50</sub>-carotenoids are synthesized *in vivo* by addition of two isopentenyl units to the 2,2'-positions of a traditional C<sub>40</sub>-carotenoid skeleton.<sup>1,2</sup> The existence of C<sub>45</sub>-carotenoid has consequently been expected.

The first C<sub>45</sub>-carotenoid (*1*) has now been isolated from *Corynebacterium poinsettiae* (Starr and Pirone). *1* had m.p. 153°C, λ<sub>max</sub> 458, 486 (ε=172 500), and 518 nm, % III/II=79 in acetone, corresponding to an aliphatic dodecaene chromophore, M=620

(C<sub>45</sub>H<sub>64</sub>O), ν<sub>max</sub> (KBR) 1160 and 905 cm<sup>-1</sup> (tertiary hydroxyl), gave no acetate on acetylation and a mono(trimethylsilyl) ether on silylation. PMR signals (τ-values) and diagnostically important fragments in the mass spectrum indicated below, support structure *1*, 2-isopentenyl-3,4-dehydrorhodopin, for the new carotenoid. Although the spectroscopic evidence does not rule out an alternative attachment of the C<sub>5</sub>H<sub>7</sub>O unit to position x, biosynthetic considerations strongly favour structure *1*. Further details will be published.

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