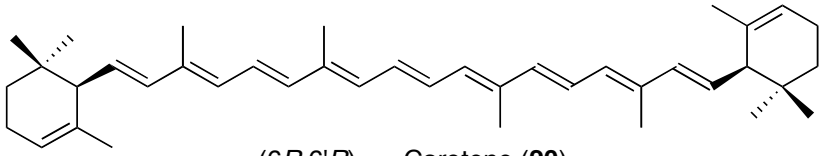
Algal Carotenoids

The following carotenoids represent structural variation of some of the most common algal carotenoids. The systematic names are followed by common names in parentheses. The numbers shown in parentheses, presented in increasing numbers, are the same as those that have been designated to each carotenoid in the comprehensive list of 750 carotenoids compiled in:

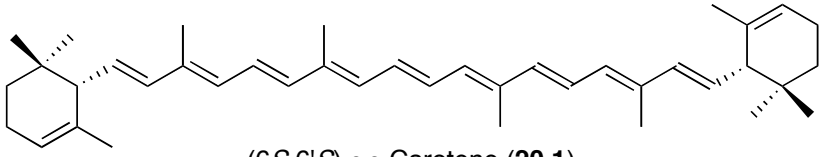
Carotenoids, Handbook (ed. Britton, G.; Liaaen-Jensen, S.; Pfander, H.), Birkhäuser: Basel, 2004.

For source and isolation as well as spectroscopic data for each carotenoid see the above reference.

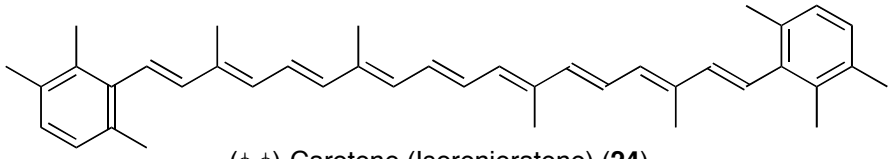
This list has been prepared in consultation with Professor Synnøve Liaaen-Jensen, Organic Chemistry Laboratories, Department of Chemistry, Norwegian University of Science and Technology (NTNU), Trondheim, Norway.



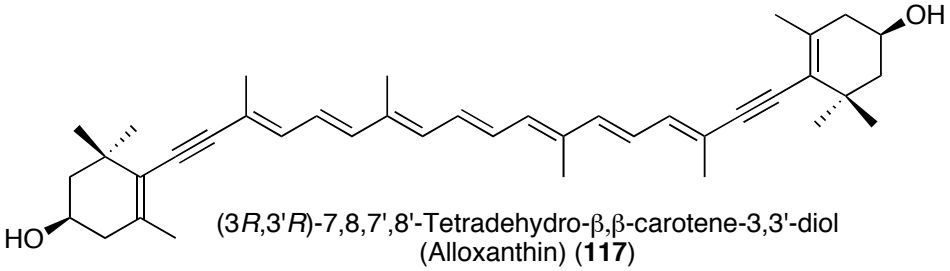
(6*R*,6'*R*)-ε,ε-Carotene (**20**)



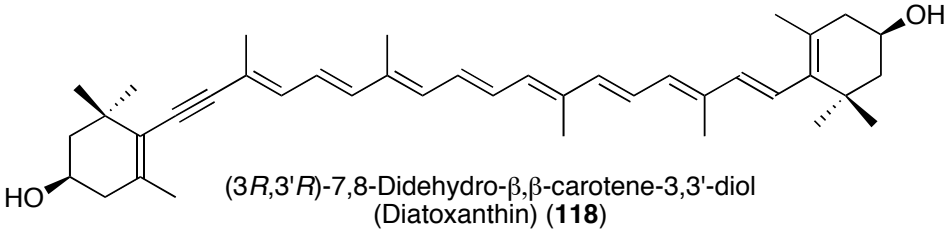
(6*S*,6'*S*)-ε,ε-Carotene (**20.1**)



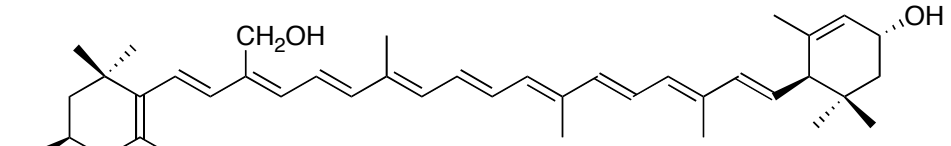
(ϕ,ϕ)-Carotene (Isorenieratene) (**24**)



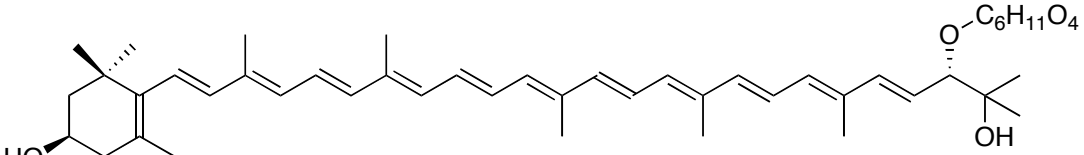
(3*R*,3'*R*)-7,8,7',8'-Tetradehydro-β,β-carotene-3,3'-diol
(Alloxanthin) (**117**)



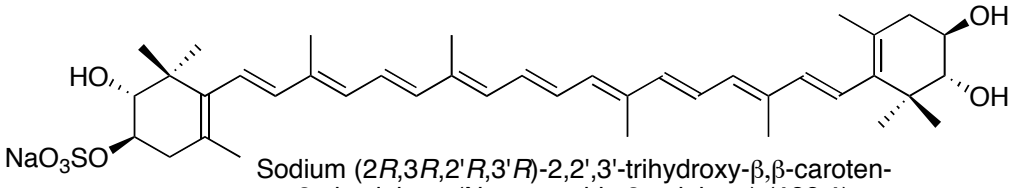
(3*R*,3'*R*)-7,8-Didehydro-β,β-carotene-3,3'-diol
(Diatoxanthin) (**118**)



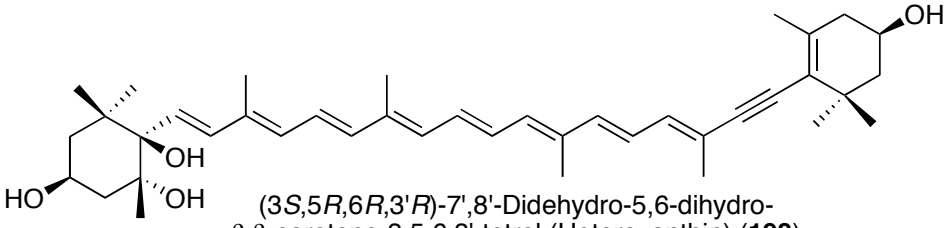
(3*R*,3'*R*,6'*R*)-β,ε-Carotene-3,19,3'-triol (Loroxanthin) (**190**)



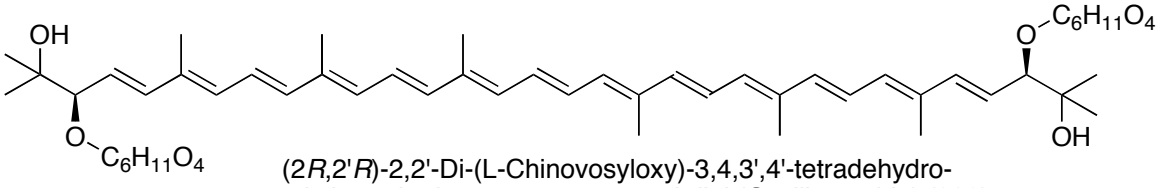
(3*R*,2'*S*)-2'-(α-L-Chinovosyloxy)-3',4'-didehydro-1',2'-dihydro-β,ψ-carotene-3,1'-diol (Myxoxanthophyll) (**192.1**)



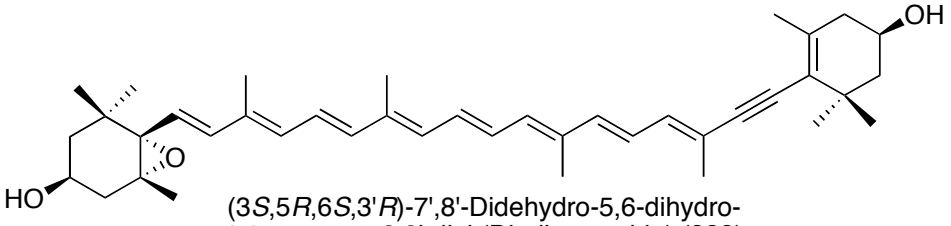
Sodium (2*R*,3*R*,2'*R*,3'*R*)-2,2',3'-trihydroxy-β,β-caroten-3-yl sulphate (Nostoxanthin 3-sulphate) (**196.1**)



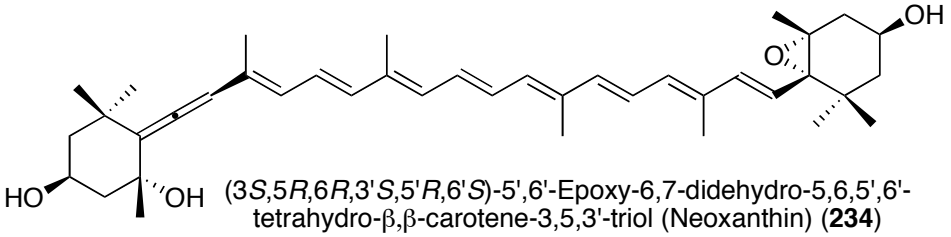
(3*S*,5*R*,6*R*,3'*R*)-7',8'-Didehydro-5,6-dihydro-β,β-carotene-3,5,6,3'-tetrol (Heteroxanthin) (**198**)



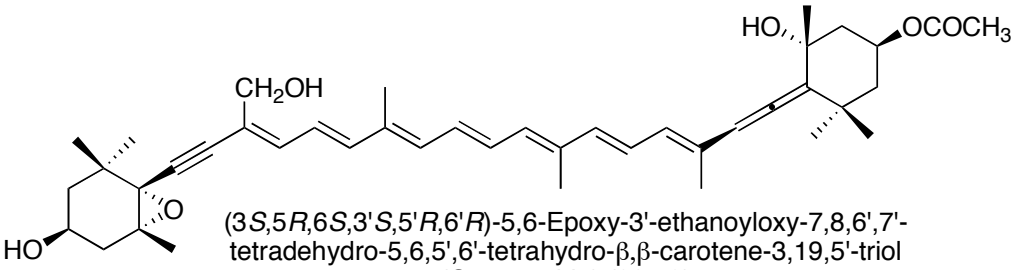
(2*R*,2'*R*)-2,2'-Di-(L-Chinovosyloxy)-3,4,3',4'-tetradehydro-1,2,1',2'-tetrahydro-ψ,ψ-carotene-1,1'-diol (Oscillaxanthin) (**208**)



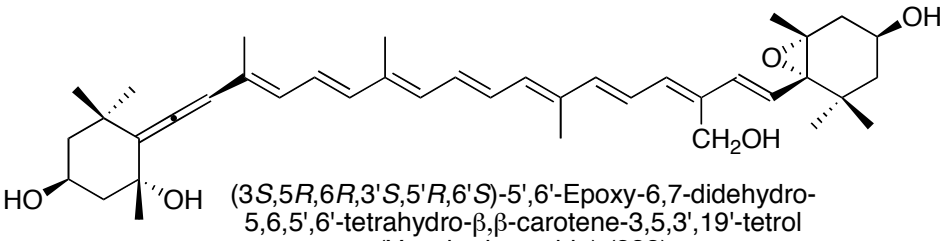
(3*S*,5*R*,6*S*,3'*R*)-7',8'-Didehydro-5,6-dihydro-β,β-carotene-3,3'-diol (Diadinoxanthin) (**230**)



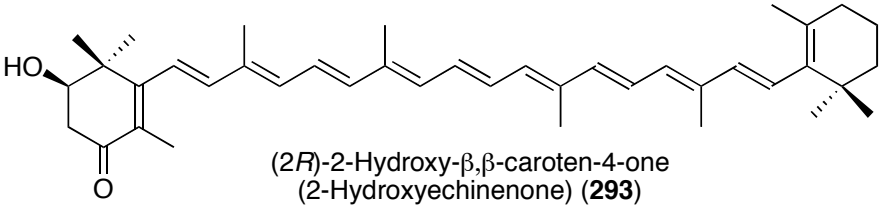
(3*S*,5*R*,6*R*,3'*S*,5'*R*,6'*S*)-5',6'-Epoxy-6,7-didehydro-5,6,5',6'-tetrahydro-β,β-carotene-3,5,3'-triol (Neoxanthin) (**234**)



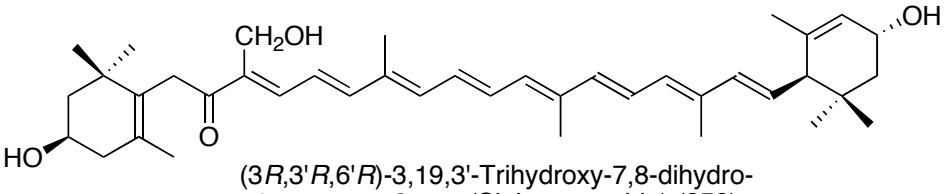
(3*S*,5*R*,6*S*,3'*S*,5'*R*,6'*R*)-5,6-Epoxy-3'-ethanoyloxy-7,8,6',7'-tetradehydro-5,6,5',6'-tetrahydro-β,β-carotene-3,19,5'-triol (Gyroxanthin) (**237.2**)



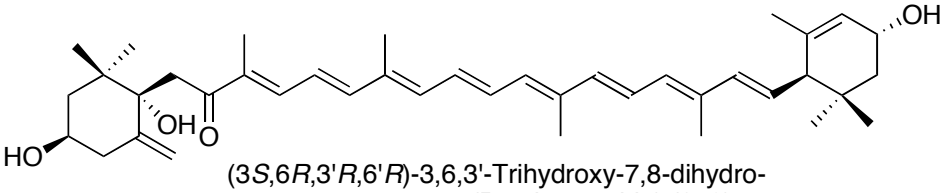
(3*S*,5*R*,6*R*,3'*S*,5'*R*,6'*S*)-5',6'-Epoxy-6,7-didehydro-5,6,5',6'-tetrahydro-β,β-carotene-3,5,3',19'-tetrol (Vaucheriaxanthin) (**238**)



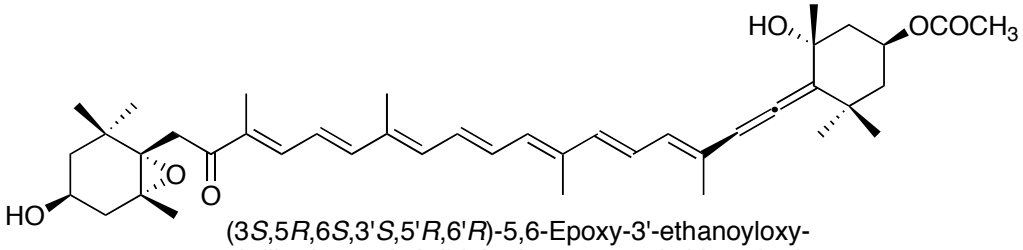
(2*R*)-2-Hydroxy-β,β-caroten-4-one (2-Hydroxyechinenone) (**293**)



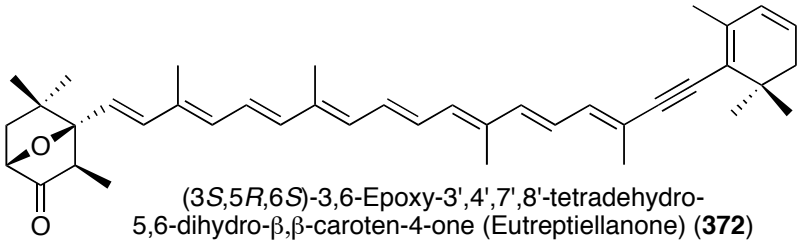
(3*R*,3'*R*,6'*R*)-3,19,3'-Trihydroxy-7,8-dihydro-β,ε-caroten-8-one (Siphonaxanthin) (**350**)



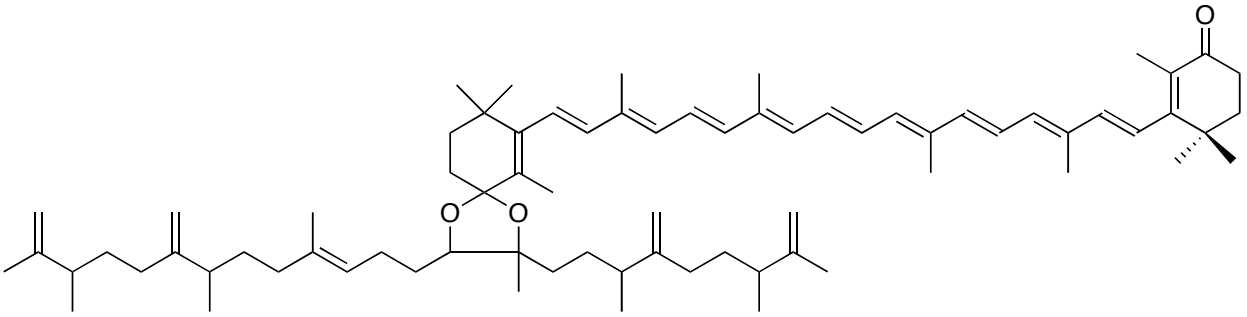
(3*S*,6*R*,3'*R*,6'*R*)-3,6,3'-Trihydroxy-7,8-dihydro-γ,ε-caroten-8-one (Prasinoxanthin) (**359**)



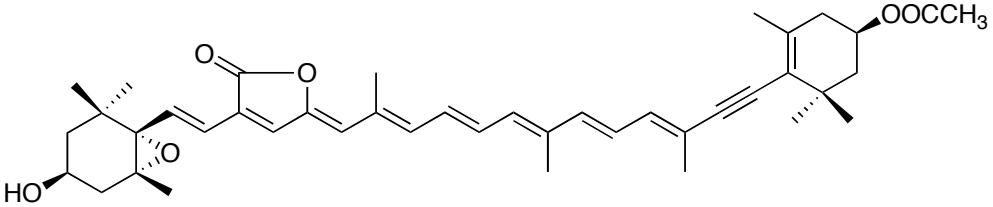
(3*S*,5*R*,6*S*,3'*S*,5'*R*,6'*R*)-5,6-Epoxy-3'-ethanoyloxy-3,5'-dihydroxy-6',7'-didehydro-5,6,7,8,5',6'-hexahydro-β,β-caroten-8-one (Fucoxanthin) (**369**)



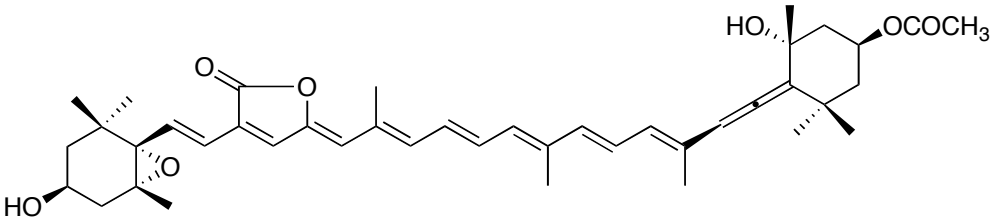
(3*S*,5*R*,6*S*)-3,6-Epoxy-3',4',7',8'-tetradehydro-5,6-dihydro-β,β-caroten-4-one (Eutreptiellanone) (**372**)



Complex ketol derivative of β,β-carotene-4,4'-dione (Botryoxanthin B) (**380.1**)



(3*S*,5*R*,6*S*,3'*R*)-5,6-Epoxy-3'-ethanoyloxy-3-hydroxy-7',8'-didehydro-5,6-dihydro-12',13',20'-trinor-β,β-caroten-19,11-olide (Pyrrhoxanthin) (**556**)



(3*S*,5*R*,6*S*,3'*S*,5'*R*,6'*R*)-5,6-Epoxy-3'-ethanoyloxy-3',5'-dihydroxy-6',7'-didehydro-5,6,5',6'-tetrahydro-12',13',20'-trinor-β,β-caroten-19,11-olide (Peridinin) (**558**)