

5. C_{29} 20S $\alpha\alpha\alpha$ / C_{29} 20R $\alpha\alpha\alpha$ steranes

Maturity indicator. Upon maturation, the biologically produced 20R stereoisomer is diminished relative to the 20S form and a stabilisation is reached at approximately 55% 20R and 45% 20S compounds. V_R equivalents are approximately 0.45% for a 20S/20R value of 0.2 and 0.8% for a 20S/20R value of 0.75. This parameter is most useful between maturity ranges equivalent to 0.4% to 1.0% V_R .

6. C_{29} 20S $\alpha\alpha\alpha$ / C_{29} 20R $\alpha\alpha\alpha$ + C_{29} 20S $\alpha\alpha\alpha$ steranes

Maturity indicator. This ratio is a different way of expressing the relative abundance of the biological 20R to the geological 20S normal sterane (see parameter 5). Expressed as a percentage, a value of about 25% indicates the onset of oil generation, and of about 50% the peak of oil generation.

7. C_{29} $\alpha\beta\beta$ / C_{29} $\alpha\alpha\alpha$ + C_{29} $\alpha\beta\beta$ steranes

Maturity indicator. The $\alpha\alpha$ form is produced biologically. Its abundance diminishes upon maturation until a mixture of 65% $\beta\beta$ (iso) steranes and 35% $\alpha\alpha$ (normal) steranes is reached, which is equivalent to approximately 0.9% V_R .

8&9. C_{27}/C_{29} diasteranes and steranes

Source indicator. It has been suggested that marine phytoplankton is characterised by a dominance of C_{27} steranes and diasteranes whereas a preponderance of C_{29} compounds indicates strong terrestrial contributions. Values smaller than 0.85 for C_{27}/C_{29} diasterane and sterane ratios are believed to be indicative for terrestrial organic matter, values between 0.85 and 1.43 for mixed organic material, and values greater than 1.43 for an input of predominantly marine organic matter.

It has been suggested, however, that marine sediments can also contain a predominance of C_{29} steranes, so the above rules have to be applied with caution. Any simplistic interpretation of C_{27}/C_{29} steranes and diasteranes can be dangerous and the interpretation of these data should be consistent with other geological evidence.

10. 18α (H) - oleanane/ C_{30} hopane

Source indicator. Oleanane is a triterpenoid compound which has often been reported from deltaic sediments of Late Cretaceous to Tertiary age. It is thought to be derived from certain angiosperms which developed in the late Cretaceous. If the 18α (H) - oleanane/ C_{30} hopane ratio is below 10, no significant proportions of oleanane are present. At higher values, it can be used as indicator for a reducing environment during deposition of land plant-derived organic matter.