terrestrial organics:
vascular plants: “humic”;
cellulose, lignin, carbohydrates

marine/lacustrine organics:
phytoplankton, zooplankton; “sapropel”;
fats, resinous, waxy

terrestrial organics:
vascular plants: “humic”;
cellulose, lignin, carbohydrates
Coal Rank

Peat  20°C
Lignite  50°C
Sub-bituminous  80°C
Bituminous  160°C
Anthracite  160°C
Graphite  240°C

H₂O

H:C ratio

Methane evolved
terrestrial organics: vascular plants

marine organics: phytoplankton, zooplankton

terrestrial organics: vascular plants
“oil shale” - kerogen
alkanes – paraffin, straight – chain hydrocarbons

A Butane, C₄H₁₀
   CH₃(CH₂)₂CH₃

   H H H H H
   |   |   |   |
   H—C—C—C—C—H
   H H H H H

B Pentane, C₅H₁₂
   CH₃(CH₂)₃CH₃

   H H H H H
   |   |   |   |
   H—C—C—C—C—C—H
   H H H H H
aromatics – more soluble in water, smelly, toxic
cycloparaffins