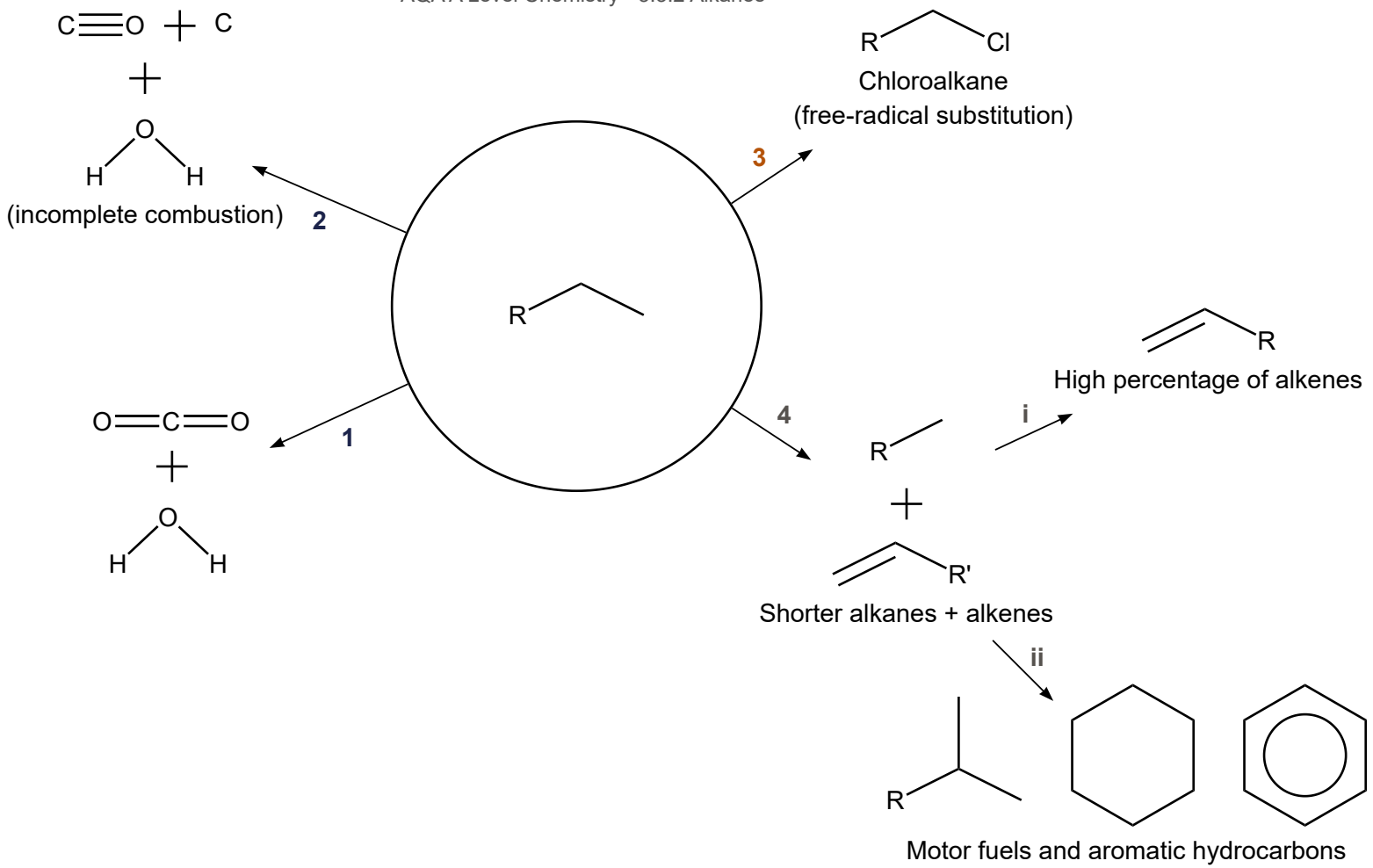
Alkanes Map

AQA A Level Chemistry · 3.3.2 Alkanes



1 combustion: excess $O_2(g)$, burn (complete combustion)

2 combustion (incomplete): limited $O_2(g)$, burn; CO is toxic, carbon forms soot

3 substitution (free-radical): Cl_2, UV light (e.g. methane → chloromethane)

4 cracking: long-chain alkane
i thermal cracking, high temperature (up to 1000 °C), high pressure (up to 70 atm)
ii catalytic cracking, zeolite catalyst, slight pressure, high temperature (about 450 °C)

Catalytic converters remove CO, NOx and unburned hydrocarbons (Pt, Pd, Rh catalysts).
SO_2 from sulfur impurities is removed from flue gases with CaO or $CaCO_3$.

combustion **substitution** **cracking**

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