

Arrange the mechanism steps in order:

Radical Chlorination of Methane

Reaction	$\text{CH}_4 + \text{Cl}_2 \xrightarrow[\text{or light}]{\text{heat}} \text{CH}_3\text{Cl} + \text{HCl}$	
Steps	Mechanism: Free radical substitution reaction	
Chain Initiation Step 1: Halogen dissociation		
	Under the influence of heat or light a molecule of chlorine dissociates; each atom takes one of the bonding electrons	This step produces two highly reactive chlorine atoms.
Chain Propagation Step 2: Hydrogen abstraction		
	A chlorine atom abstracts a hydrogen atom from a methane molecule	This step produces a molecule of hydrogen chloride and a methyl radical
Step 3: Halogen abstraction		
	A methyl radical abstracts a chlorine atom from a chlorine molecule	This step produces a molecule of chloromethane and a chlorine atom. The chlorine atom can now cause repetition of step 2.
Chain Termination		
	Coupling of any two radicals depletes the supply of reactive intermediates and terminates the chain. Several pairings are possible for radical coupling termination steps.	

