WHEN PRODUCTS ARE KNOWN

Start

Part or all of the reagent adds to the starting material without replacing a group

Some form of ADDITION

A way of generating radicals (UV light, or peroxides and heat)?

NO

Is the group added to a carbonyl carbon, or a C=C double bond?

Carbonyl carbon

Nucleophilic Addition

C=O double bond

Electrophilic Addition

YES

Radical Addition

A double bond is formed in the reaction

Elimination

Part or all of the reagent replaces a group on the starting material

Some form of SUBSTITUTION

A way of generating radicals (UV light, or peroxides and heat)?

NO

Does the reaction occur on an aromatic ring, carbonyl carbon, or an aliphatic carbon atom?

Carbonyl carbon

Nucleophilic Addition - Elimination

Aliphatic carbon

Nucleophilic Substitution

Aromatic ring

Electrophilic Aromatic Substitution

YES

Radical Substitution

When the products are known, you can definitively say which reaction (or reactions) have occurred.

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