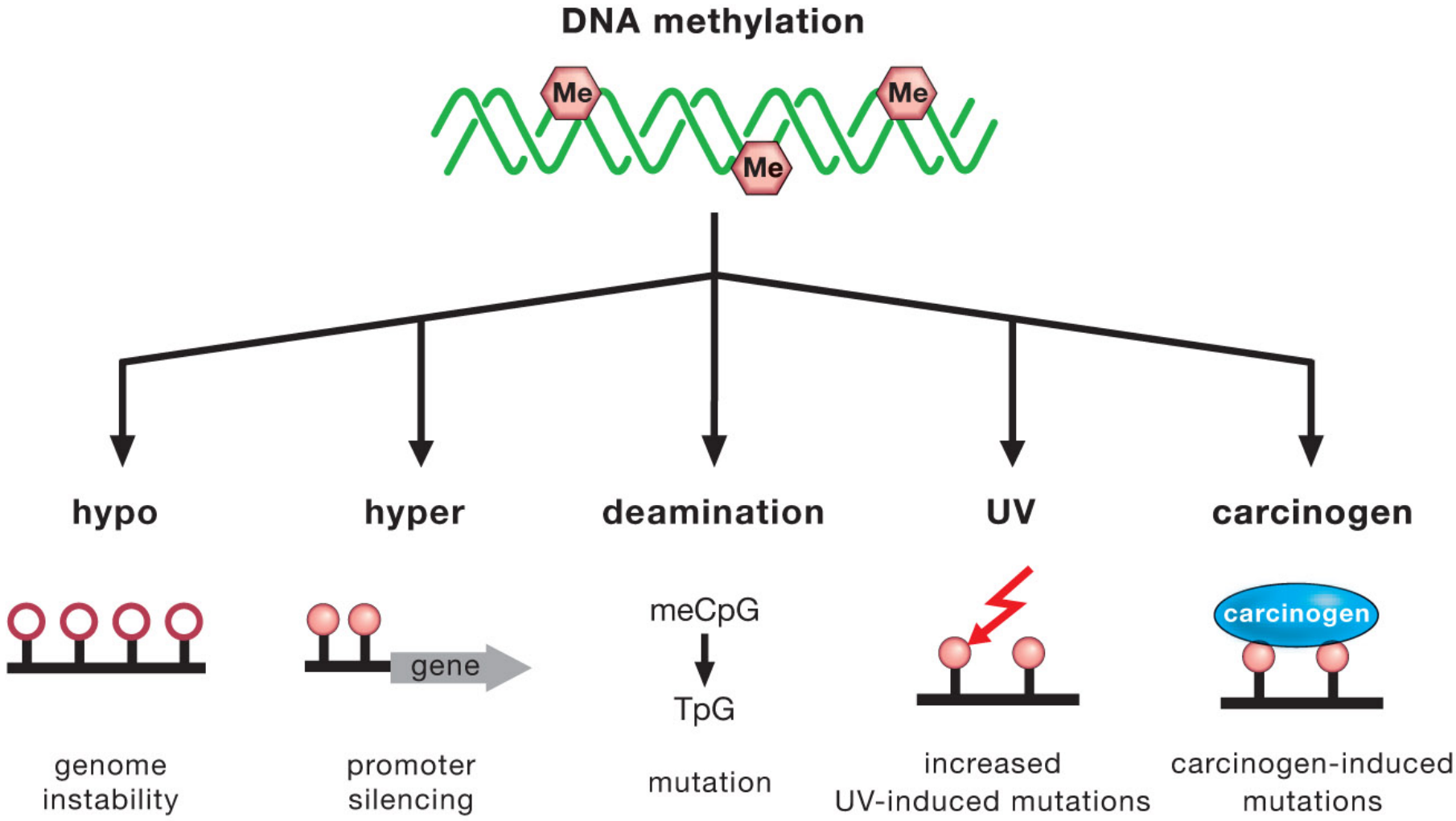

Figure 1. Epigenetic Alterations Involving DNA Methylation Can Lead to Cancer by Various Mechanisms

Loss of DNA cytosine methylation (hypo) results in genome instability. Focal hypermethylation in gene promoters (hyper) causes heritable silencing and therefore inactivation of tumor suppressor genes. Additionally, methylated CpG sites are hotspots for C→T transition mutations caused by spontaneous hydrolytic deamination. Methylation of CpG sites also increases the binding of some chemical carcinogens to DNA and increases the rate of UV-induced mutations.