

Figure 10.12 Mechanisms for synthesis of thioesters. (1) High temperature, low pH spontaneous synthesis from thiols and organic acids; (2) oxidative synthesis from thiols and α -keto organic acids based on ferric iron reduction²⁹

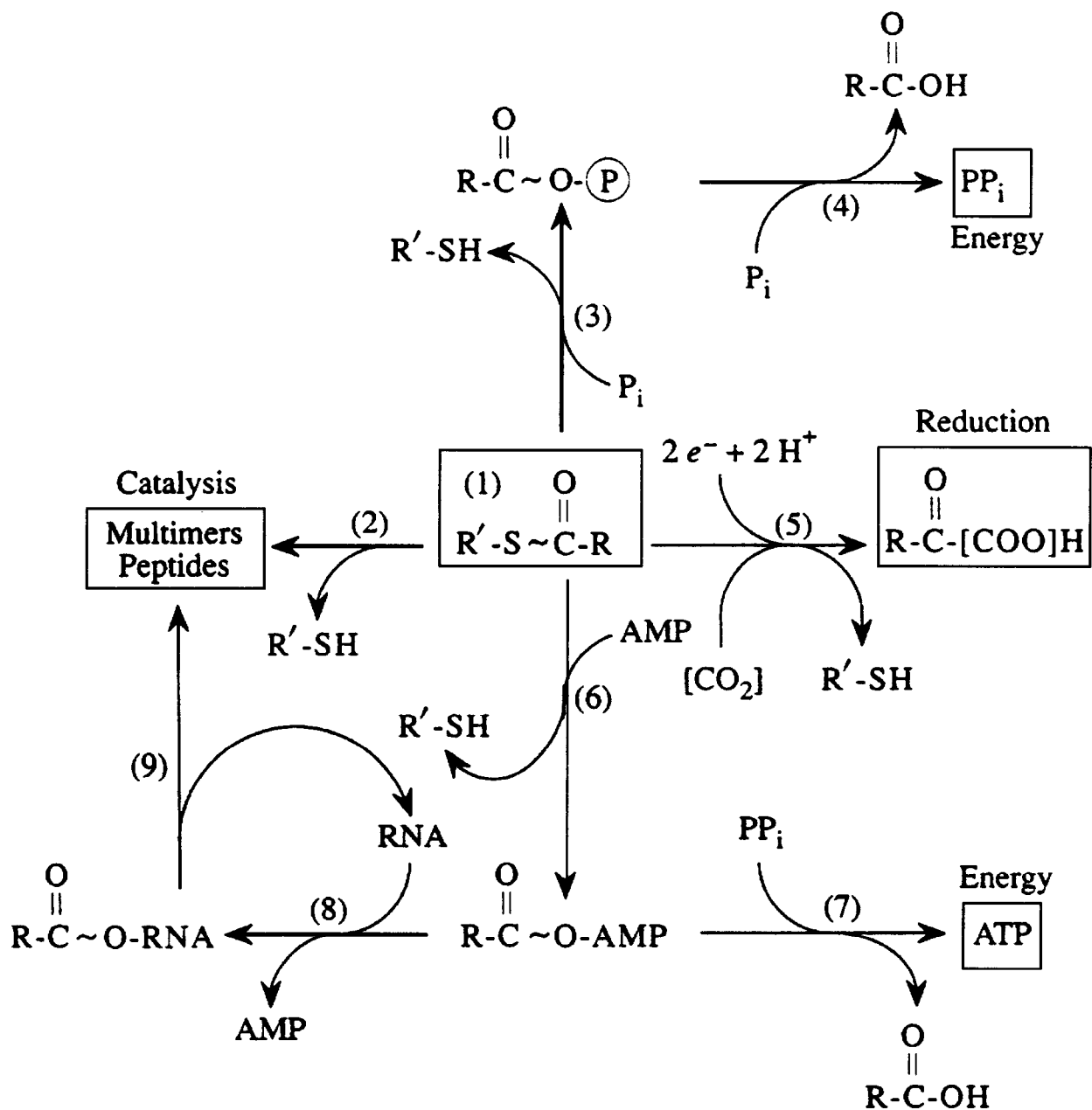


Figure 10.10 Synopsis of chemical transformations in the thioester world illustrating: (1) a pool of thioesters; (2) polymerisation of protoenzymes; (3) generation of high-energy phosphate esters; (4) generation of pyrophosphate, a primordial energy carrier; (5) thioester-based organic synthesis reactions; (6) formation of high-energy adenylylate derivatives; (7) production of ATP; (8) generation of acyl-RNA complexes (e.g. amino-charged tRNA); (9) peptide formation²⁹