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Abstract: Pervaporation, a green and energy-saving membrane process for liquid molecule mixture separation, has played increasingly critical role among the various membrane technologies. The strong and complex interactions among liquid molecule mixtures put forward severe requirements for membrane materials design and preparation in order to obtain high separation performance and long-term stability. Hybrid membranes, distinctive for the 4M features (multiple interactions, multiscale structures, multiphase and multiple functionalities), have been more and more exploited in pervaporation process. This review aims at contributing a comprehensive overview on hybrid membranes for pervaporation separations. Recent advances in the five classes of fabrications methods of hybrid membranes are extensively summarized.