

Abstract

An adsorbent selection method, a pressure swing adsorption method, and a system therefor. The selection method comprises: obtaining the slope at an initial pressure of an adsorption isotherm with respect to a target adsorbate of each adsorbent among a plurality of adsorbents, wherein each adsorption isotherm is a curve representing adsorption capacity varying with pressure at a specific temperature; obtaining the adsorption capacity of each adsorbent on the target adsorbate under the specific temperature and a specific pressure; and selecting a target adsorbent for adsorbing the target adsorbate from the plurality of adsorbents according to the slope and the adsorption capacity of each adsorbent. In a pressure swing adsorption process, a pressure swing adsorption cycle can be optimized, the amount of an adsorbent used can be reduced, and operation and production costs of pressure swing adsorption can consequently be reduced.