

Metabolic Engineering: Chemical Engineering Provides a Good Basis for Metabolic Modeling and Analysis

이진원*, 홍석민, 진종화
광운대학교 화학공학과
(jwlee@daisy.kw.ac.kr*)

Chemical engineering which has contributed a lot to human society is continuing to seek for new areas for further development. Biotechnology is frequently mentioned as a prospective alternative for the future chemical engineering. Biotechnology and chemical engineering have been developed independently because they were considered as a different region of science. But, recently, the tendency of development was not clearly divided into different regions, and they relate very closely in many aspects and keep going together. Especially, metabolic engineering requires many fundamental basics of chemical engineering and can be a good example of intimate relationship. So, here we try to compare processes containing chemical engineering and biotechnology, and look for 'how it can be applied between them'. We also try to find how in vivo metabolic systems can be systemized by techniques of chemical engineering. And As one of strong tools for metabolic analysis, metabolic flux analysis (MFA) and metabolic control analysis (MCA) will be presented with some typical metabolic networks.