Biotherapeutic products have emerged as effective treatments for a variety of otherwise hard to treat diseases such as diabetes, cancer, rheumatoid arthritis, psoriasis, etc. Many of these products are expressed in microbial hosts such as E Coli and Pichia pastoris. Metabolomics has emerged as a recent discipline which capitalizes on the analytical power of mass spectrometry and data analysis to give an understanding of how the cellular machinery of these microorganisms works. This project will focus on applying omics approach (Metabolomics, Transcriptomics, Proteomics and Genomics) for optimizing protein expression in one of the most commonly used microbial host E coli.

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