While bioenergetics for a system such as mitochondrial cell can be studied based on respiratory states, it is plausible to measure the flux and help interpret experimental data. For example, simulation studies on physiological mitochondrial bioenergetics have been developed which allows the researchers to study both transient and steady state data (Bazi et al. 2010). The parameters can be predefined using Complex Pathway Simulator (COPASI) (www.copasi.org) and certain network topologies and conditions be enabled. With the advent of systems biology, collective understanding of the cellular bioenergetics are conceptualized *in silico* thus bringing predictions to bench work. This will save enormous time besides ascertaining the elementary flux modes for the mitochondrial system. A cross talk among pathways at various phases and fluxes would be of immense value to the bioenergetics research community which can bring interaction studies both at substrate and inhibitor level (Hong et al. 2012).

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