



*Figure 3* Electron donors and acceptors of life. This cartoon is designed to show the various redox couples known to be utilized by living organisms. On the left are the fuels or energy sources (organic and inorganic), and on the right are oxidants used to burn these fuels. If the arrow between energy source and oxidant has a negative slope, then (if kinetic properties allow) an organism should be able to harvest this energy. Prokaryotes have exploited most of these energetic niches; whereas eukaryotes are confined to just a few organic compounds as fuels and to molecular oxygen as oxidant.