homocysteine and cysteine interconversion adenosine nucl. degr. L-isoleucine synth. L-valine synth. inosine 5'-phosphate degr. guanosine nucl. degr. adenine and adenosine salvage heterolactic fermentation tunicamycin synth. glycolysis guanine and guanosine salvage peptidoglycan synth. mixed acid fermentation L-glutamine synth. pyrimidine dNMPs de novo synth. pyrimidine ribonucleosides salvage dodecenoate synth. 8-amino-7-oxononanoate synth. gondoate synth. mycolate synth. oleate synth. streptorubin B synth. fatty acid synth. init. fatty acid elongation -- saturated stearate synth. palmitate synth. palmitoleate synth. -dodec-5-enoate) cis-vaccenate synth. fatty acid synth. petroselinate synth. iso-branched-chain fatty acid synth. anteiso-branched-chain fatty acid synth. pyrimidine dNMPs synth. from CTP L-arabinose degr. D-galactose degr. L-histidine synth. 2-oxoglutarate decarboxylation to succinyl-CoA UTP and CTP dephos.