ILEUSYN-PWY: L-isoleucine biosynthesis I (from threonine)
VALSYN-PWY: L-valine biosynthesis
BRANCHED-CHAIN-AA-SYN-PWY: superpathway of branched amino acid
PWY-5101: L-isoleucine biosynthesis II
PWY-5103: L-isoleucine biosynthesis III
PWY-7111: pyruvate fermentation to isobutanol (engineered)
UDPNAAGSYNPWY: UDP-N-acetyl-D-glucosamine biosynthesis I

THISYN-PWY: superpathway of thiamin diphosphate biosynthesis I
PWY6703: preQ0 biosynthesis
PWY-6897: thiamin salvage II
NAGLIPASYNPWY: lipid IVA biosynthesis
PWY1269: CMP-3-deoxy-D-manno-octulonate biosynthesis I
PWY-6467: Kdo transfer to lipid IVA III (Chlamydia)