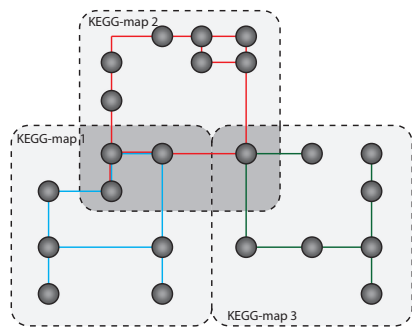


A

Level 1

biological process

Level 2

cellular process

metabolic process

Level 3

cellular metabolic process

small molecule metabolic process

oxidation-reduction process

Level 4

cellular ketone metabolic process

organic acid metabolic process

Level 5

oxoacid metabolic process

Level 6

carboxylic acid metabolic process

Level 7

dicarboxylic acid metabolic process

cellular amino acid metabolic process

carboxylic acid biosynthetic process

Level 8

malate metabolic process

cellular modified amino acid metabolic process

cellular amino acid biosynthetic process

Level 9

pantothenate metabolic process

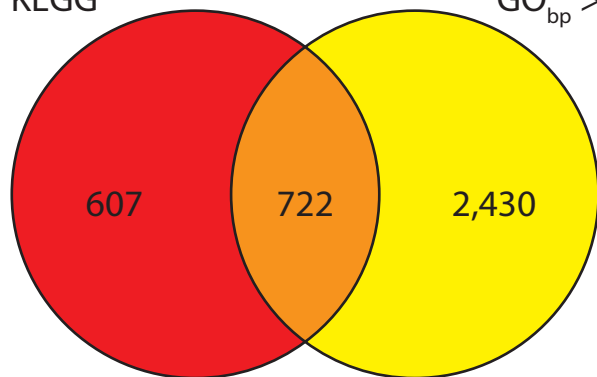
cellular modified amino acid biosynthetic process

Level 10

pantothenate biosynthetic process

B

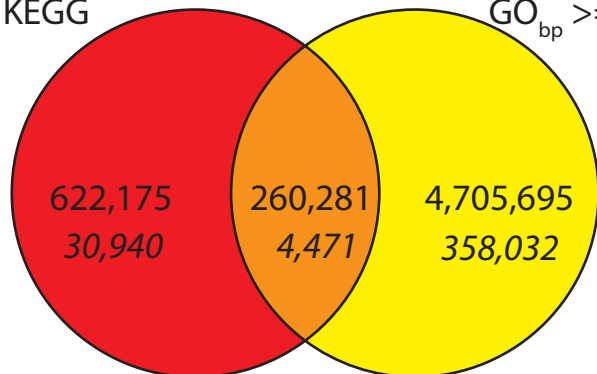
KEGG

GO_{bp} ≥ 6

Proteins

C

KEGG

GO_{bp} ≥ 6All pairs
positive pairs