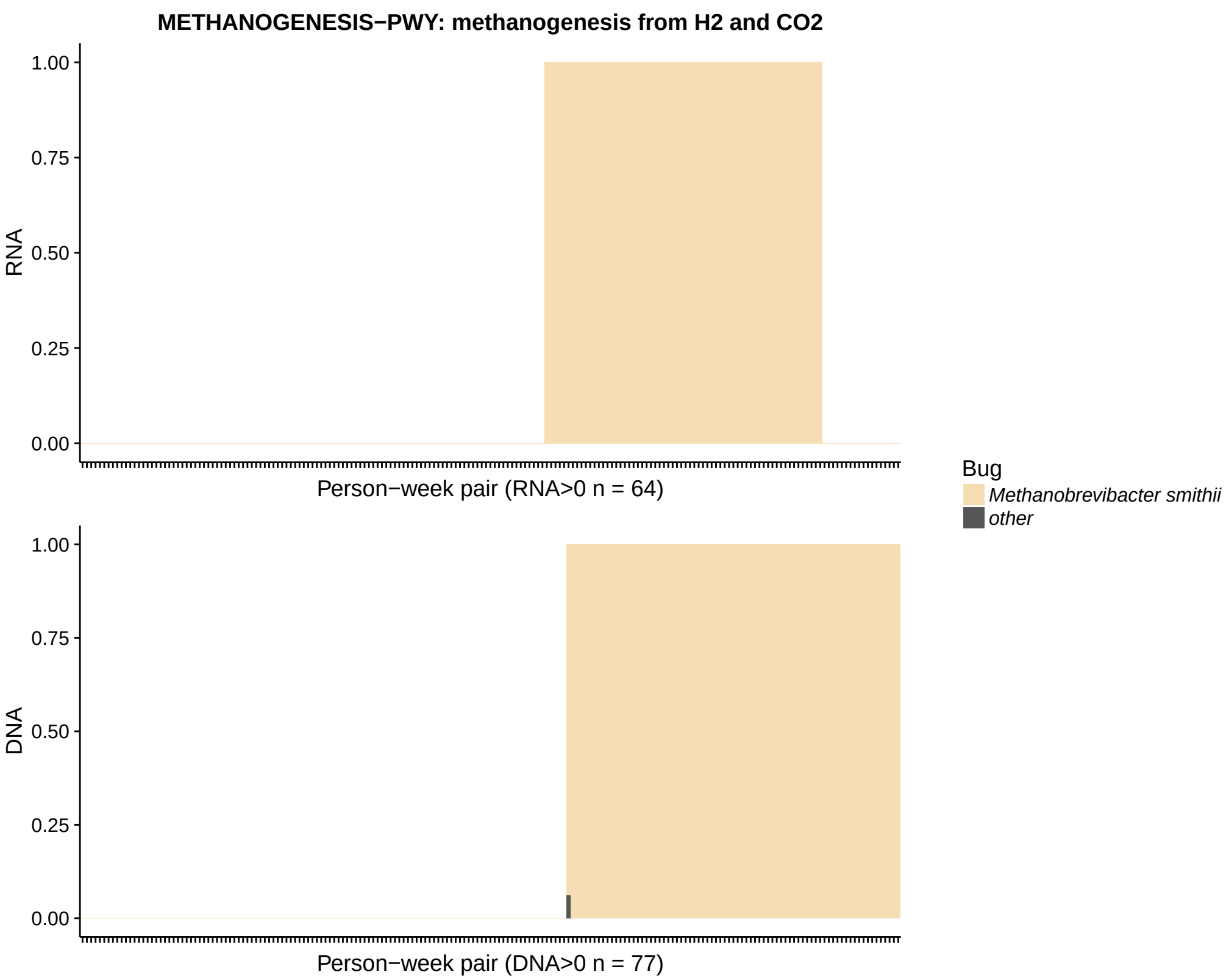
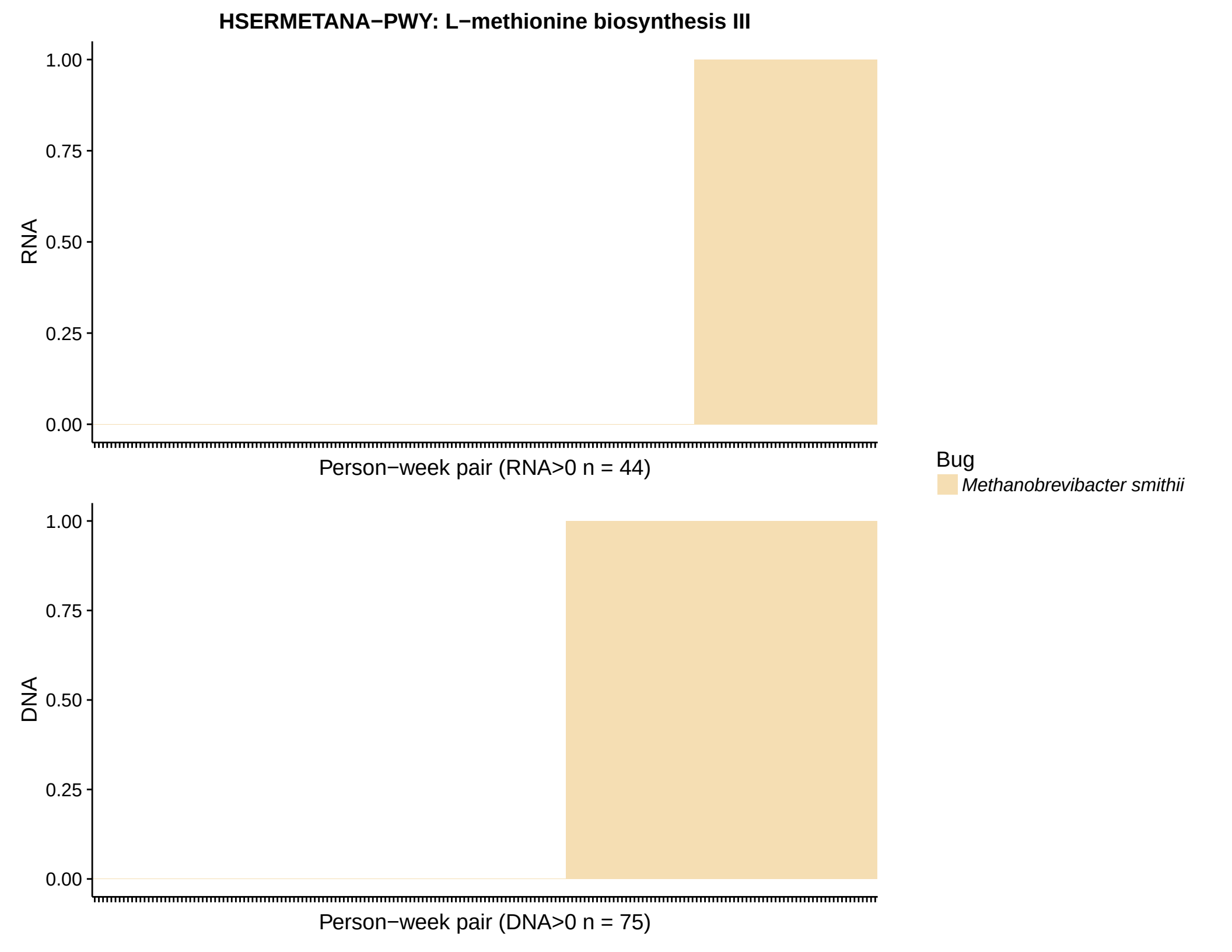
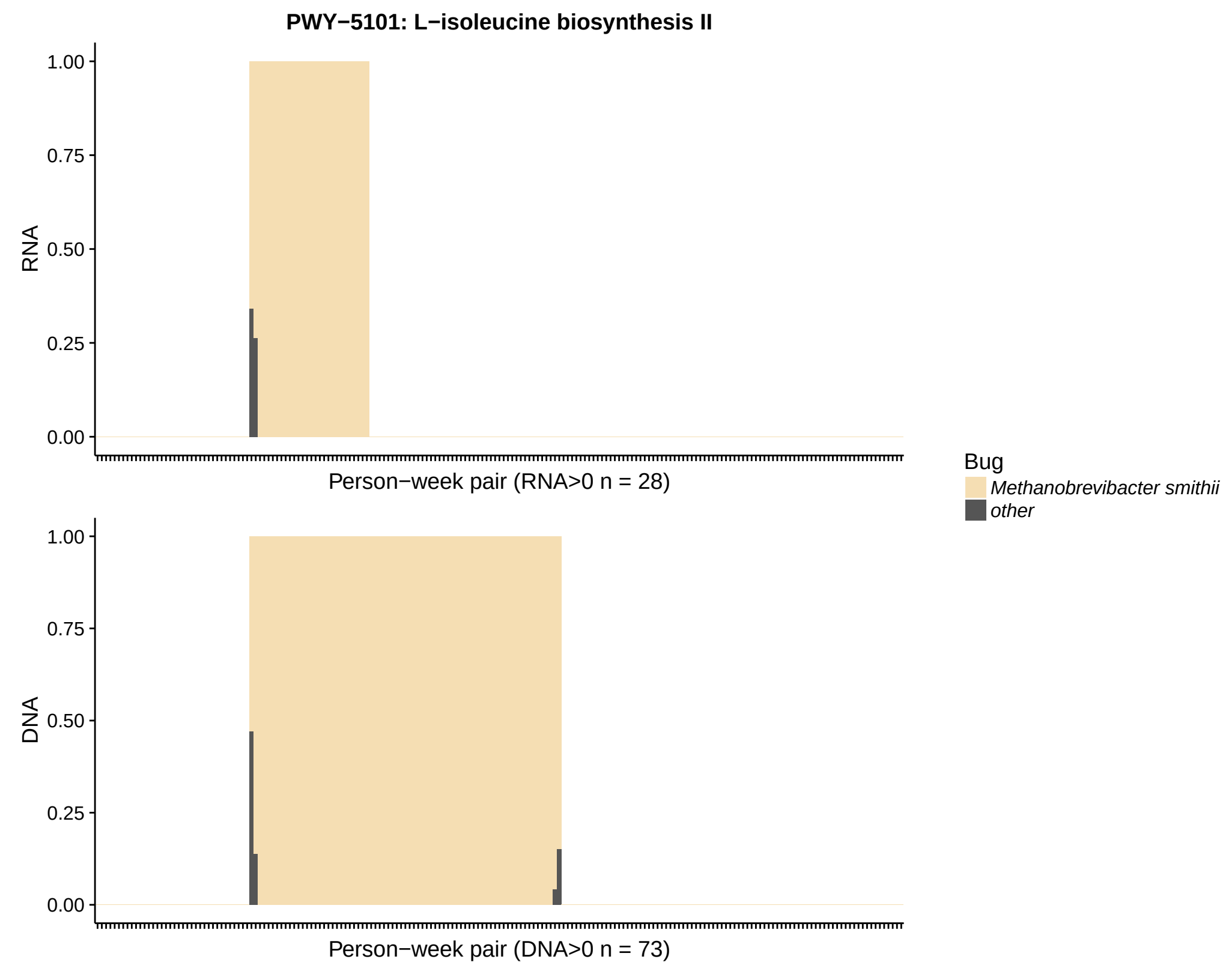
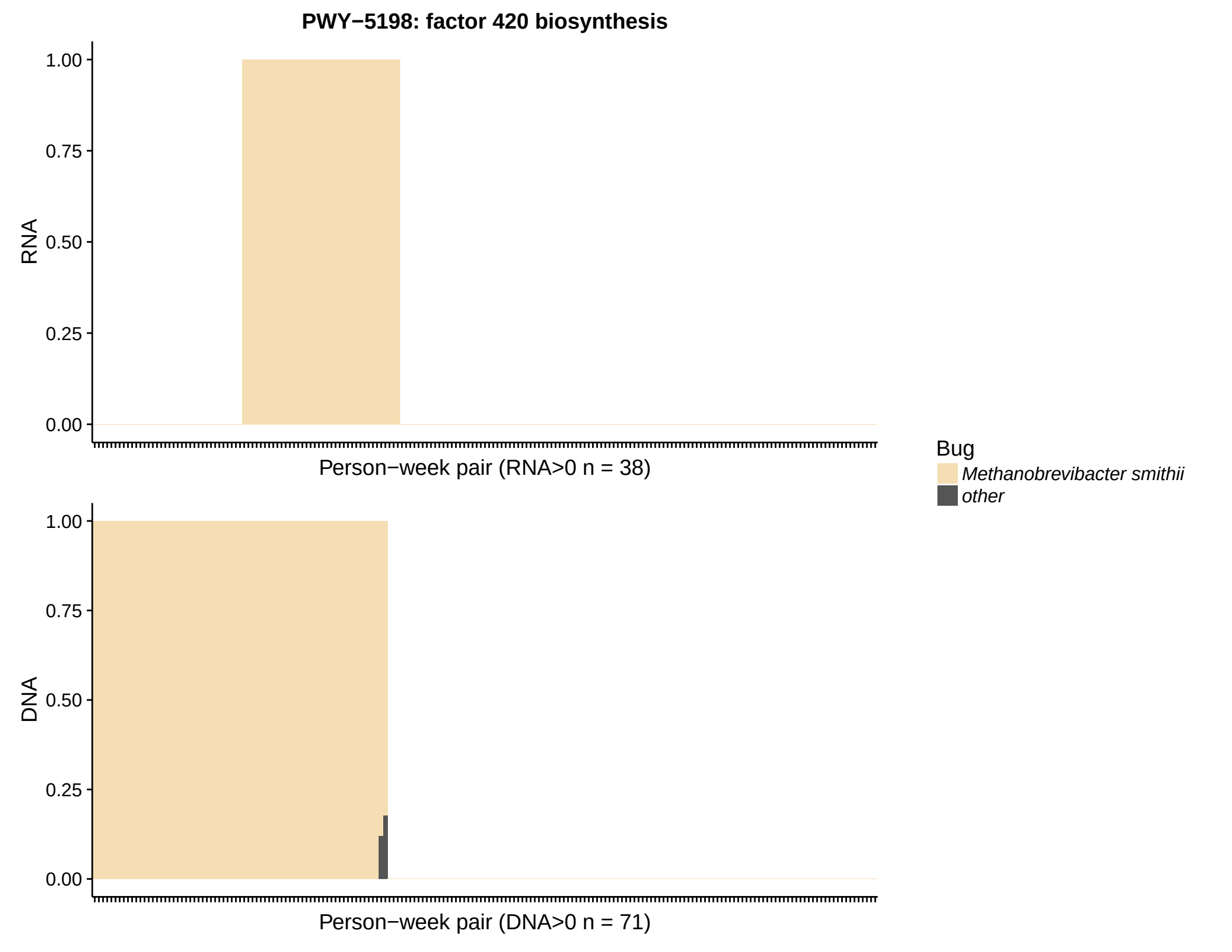
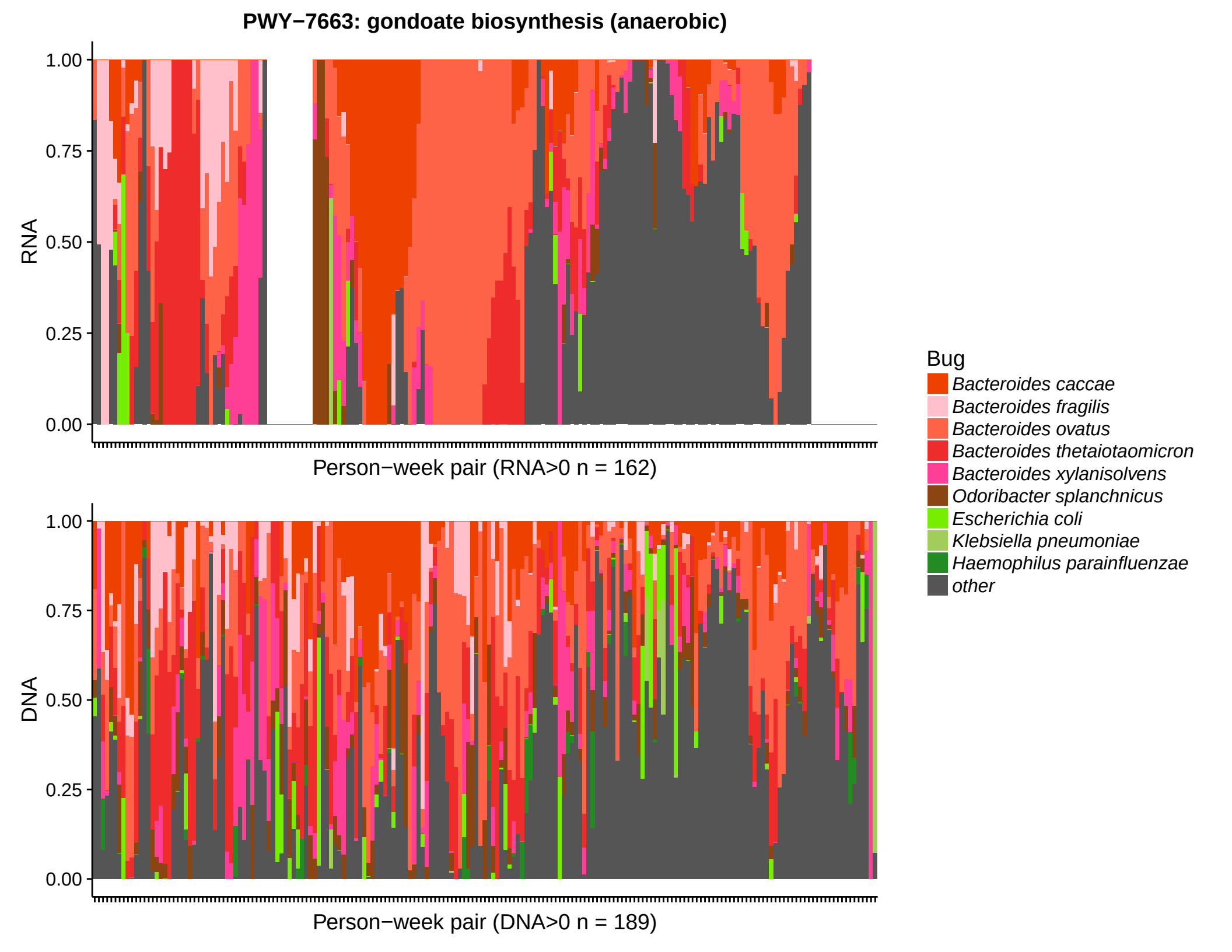
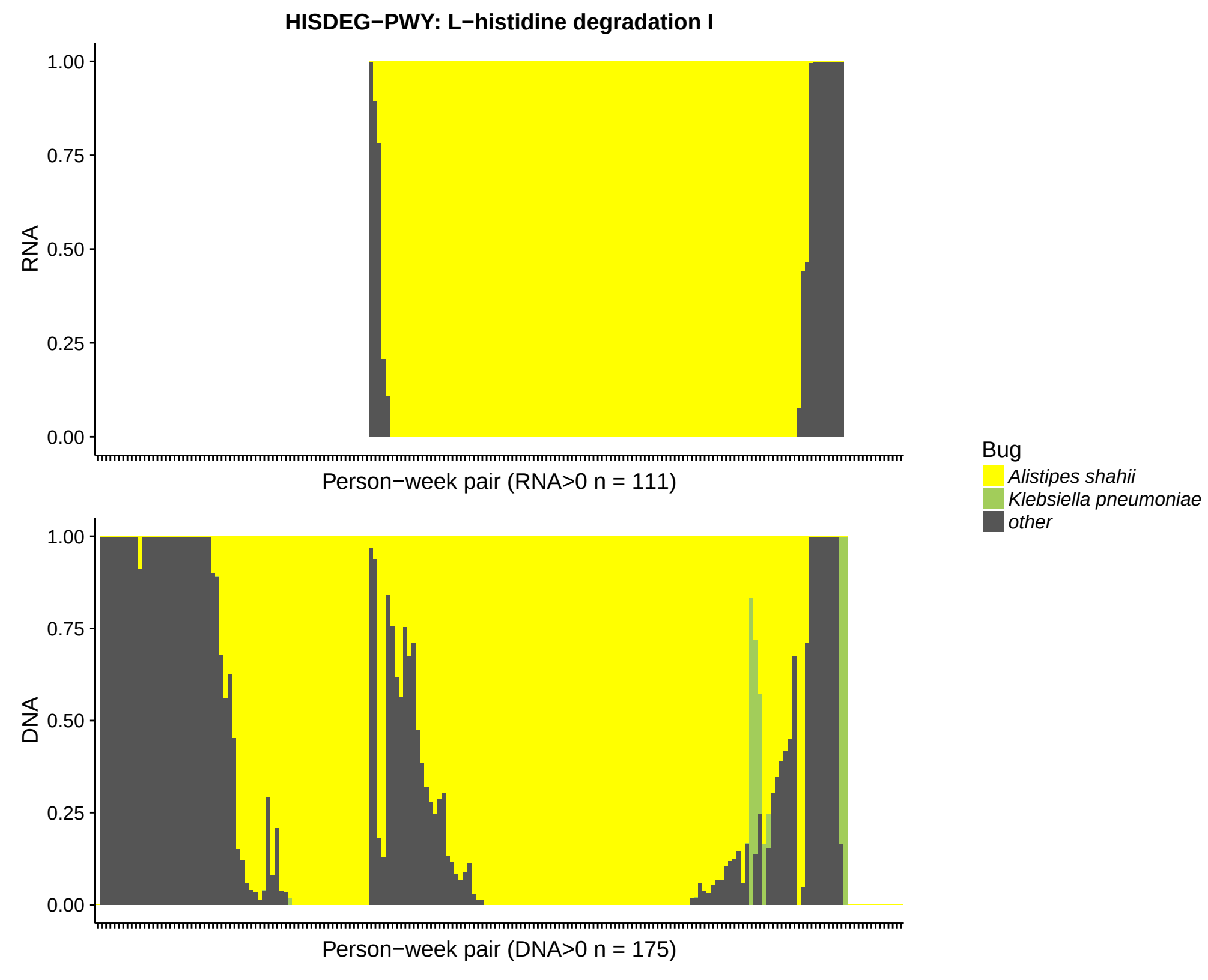

METHANOGENESIS−PWY: methanogenesis from H2 and CO2
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 64)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 77)
Bug
Methanobrevibacter smithii
other

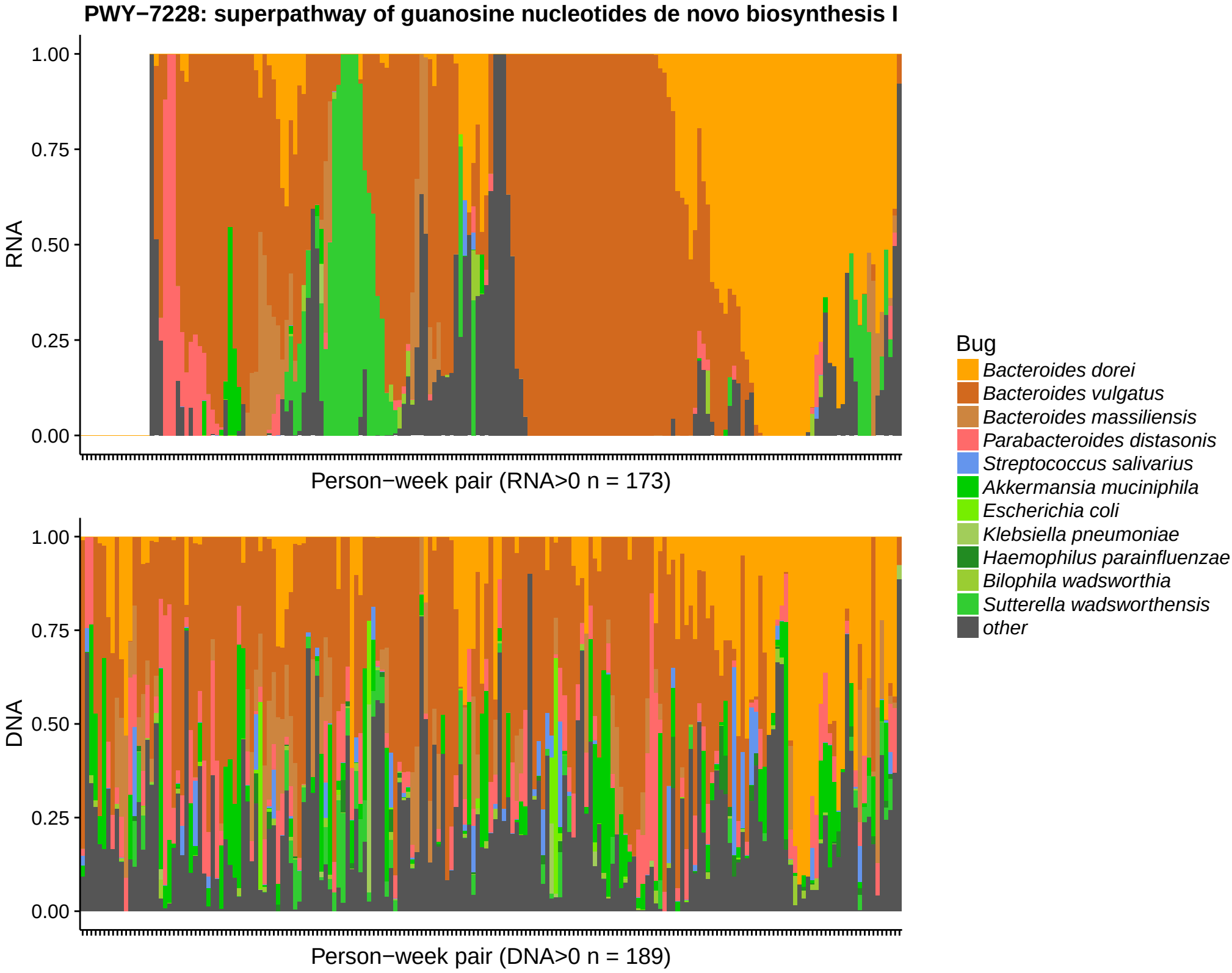

HSERMETANA−PWY: L−methionine biosynthesis III
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 44)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 75)
Bug
Methanobrevibacter smithii

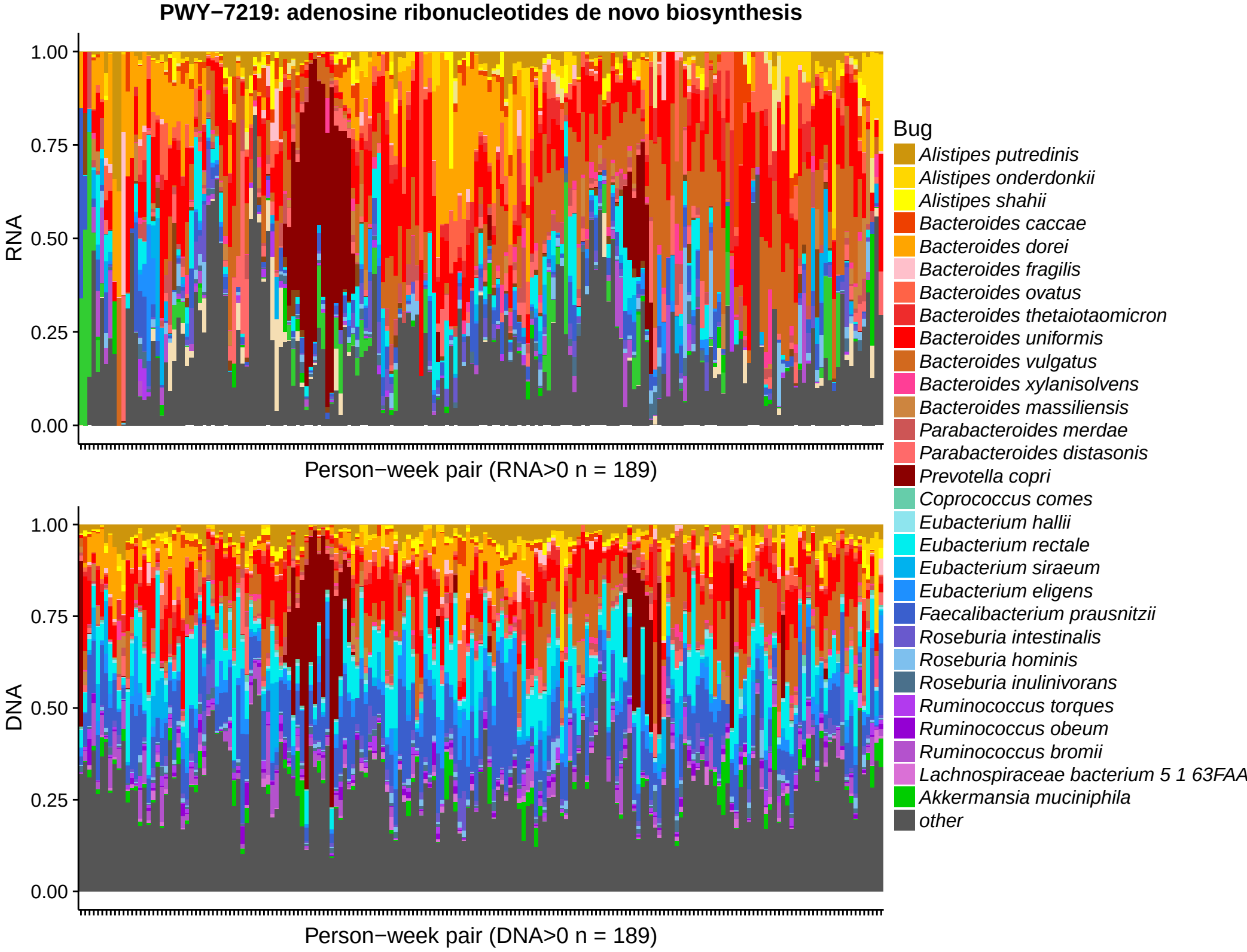

PWY−5101: L−isoleucine biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 28)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 73)
Bug
Methanobrevibacter smithii
other

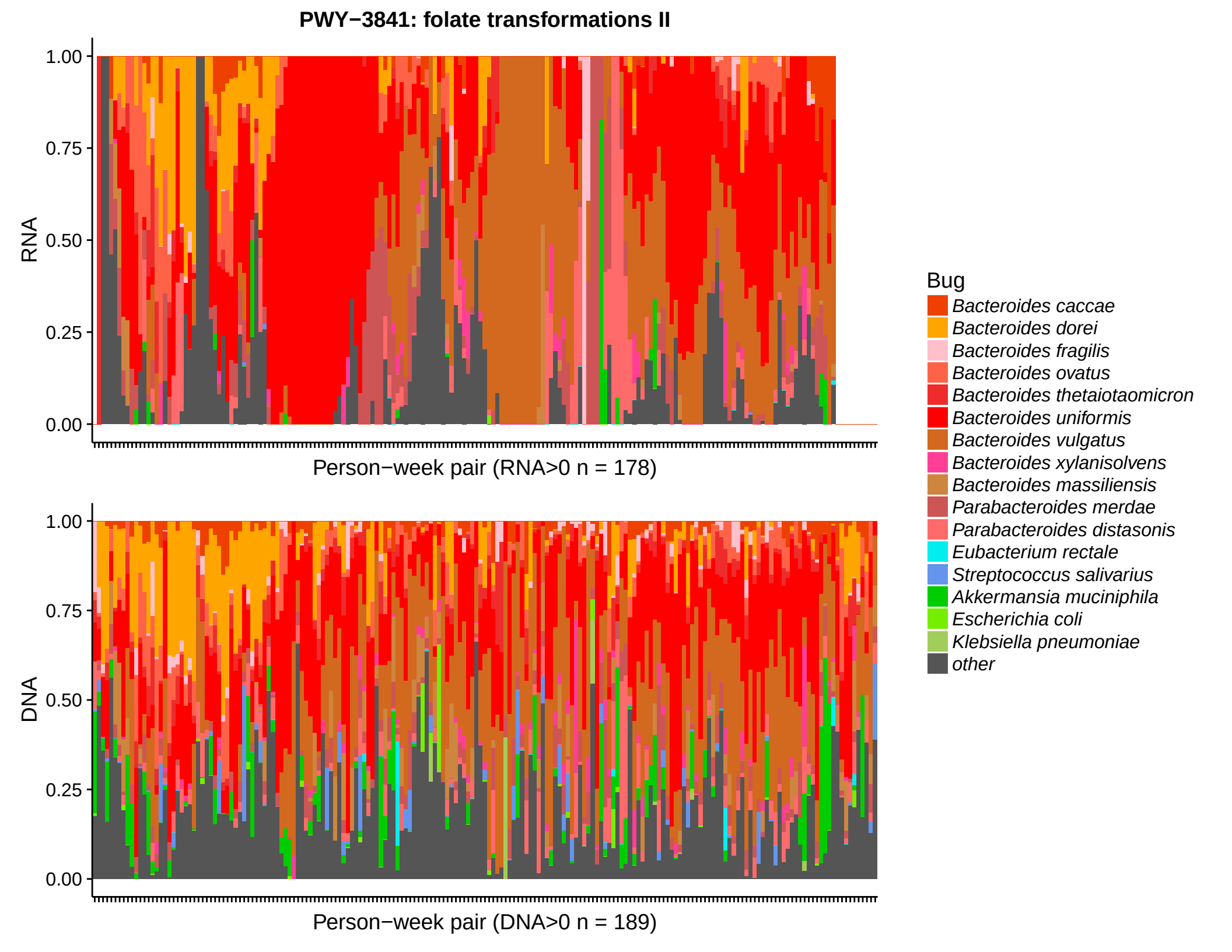

PWY−5198: factor 420 biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 38)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 71)
Bug
Methanobrevibacter smithii
other

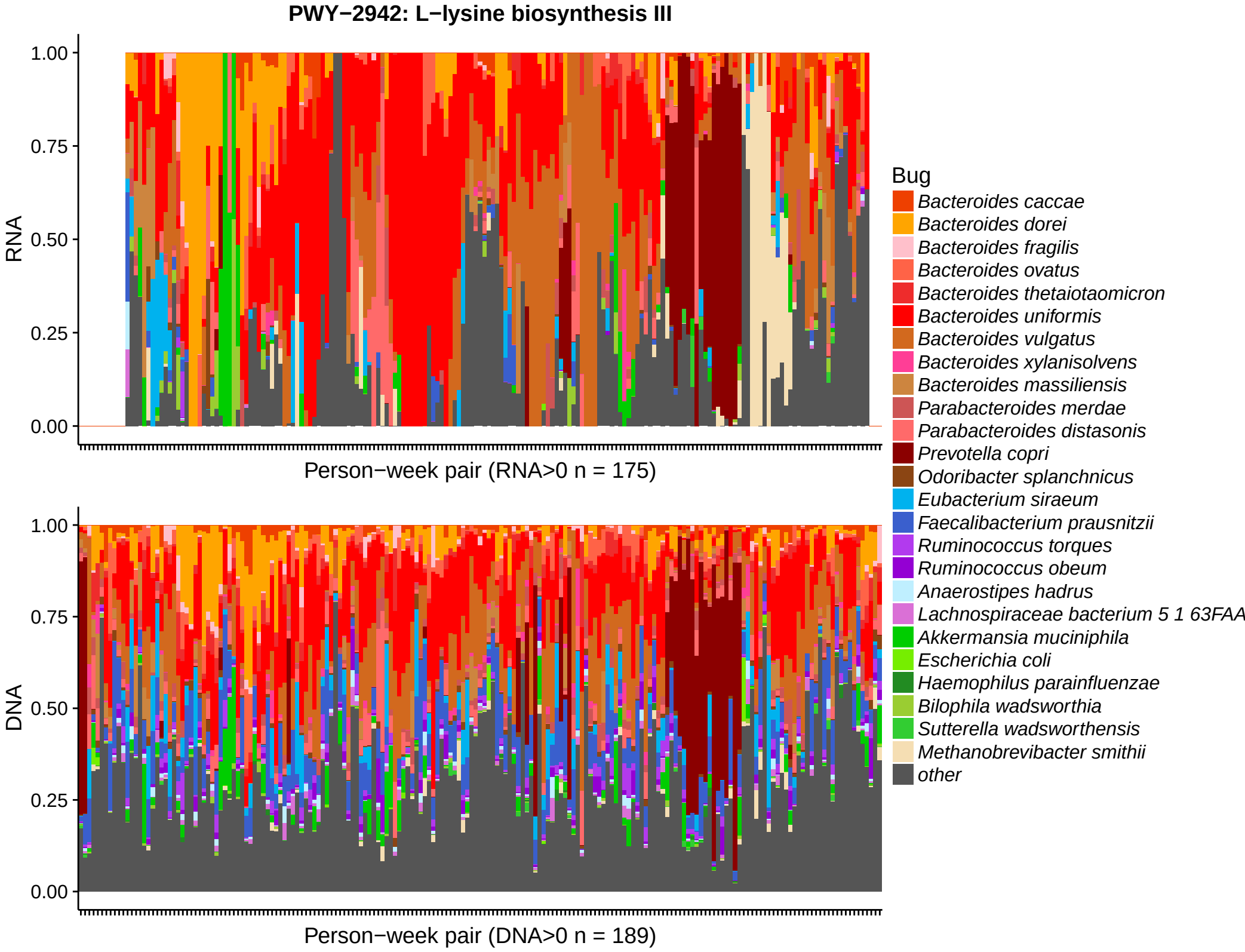

PWY−7663: gondoate biosynthesis (anaerobic)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 162)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Odoribacter splanchnicus
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

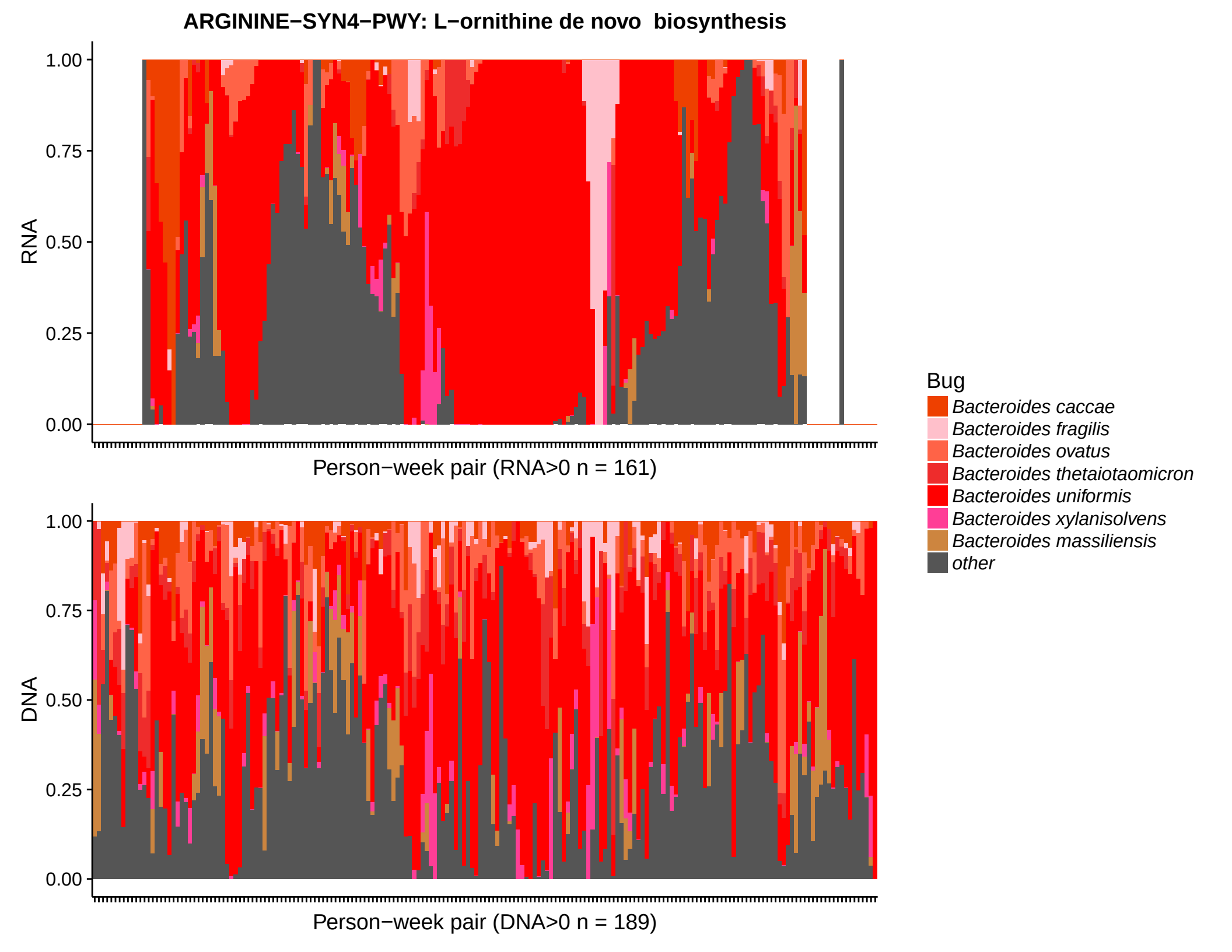

HISDEG−PWY: L−histidine degradation I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 111)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 175)
Bug
Alistipes shahii
Klebsiella pneumoniae
other

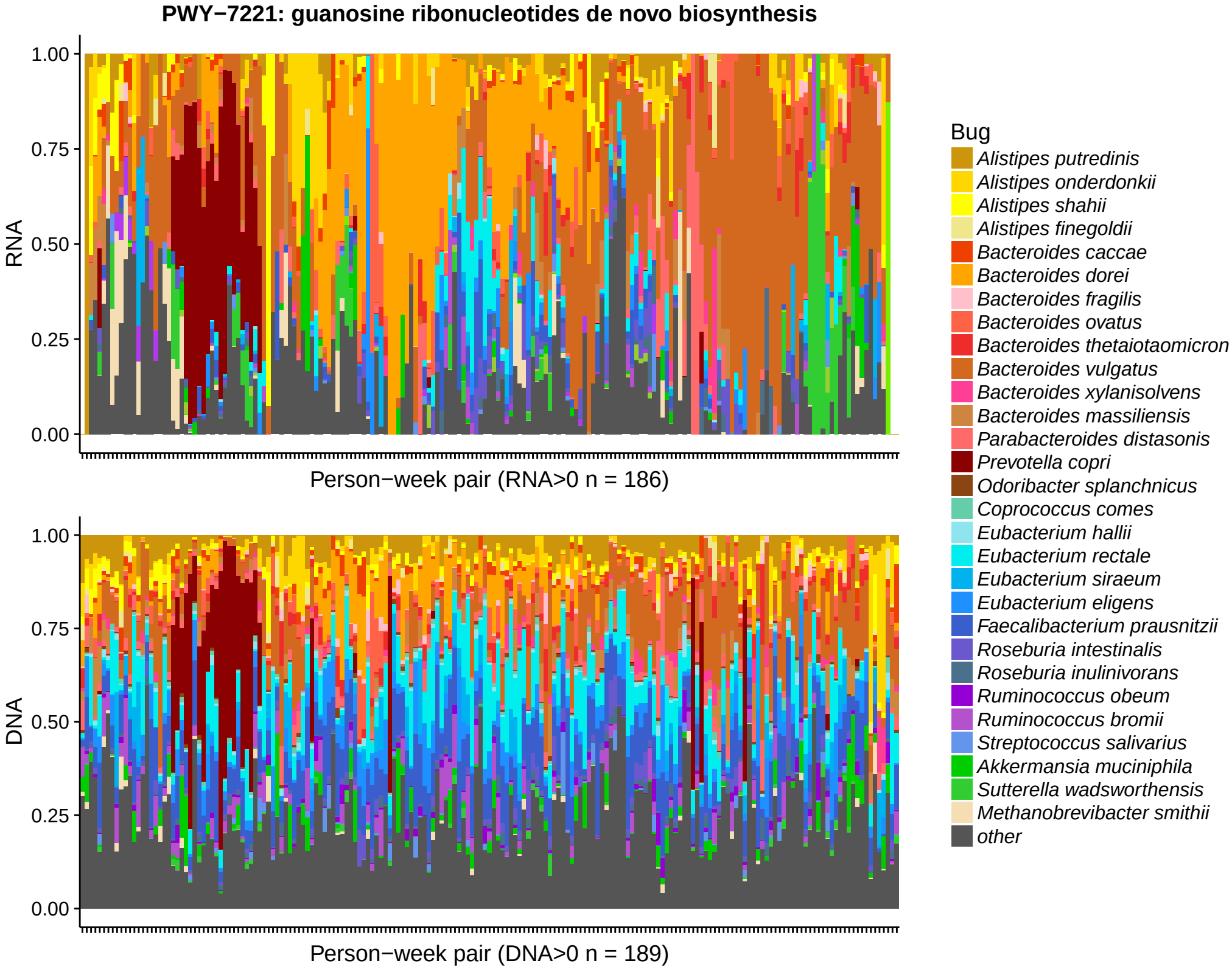

PWY−7228: superpathway of guanosine nucleotides de novo biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 173)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides dorei
Bacteroides vulgatus
Bacteroides massiliensis
Parabacteroides distasonis
Streptococcus salivarius
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
other

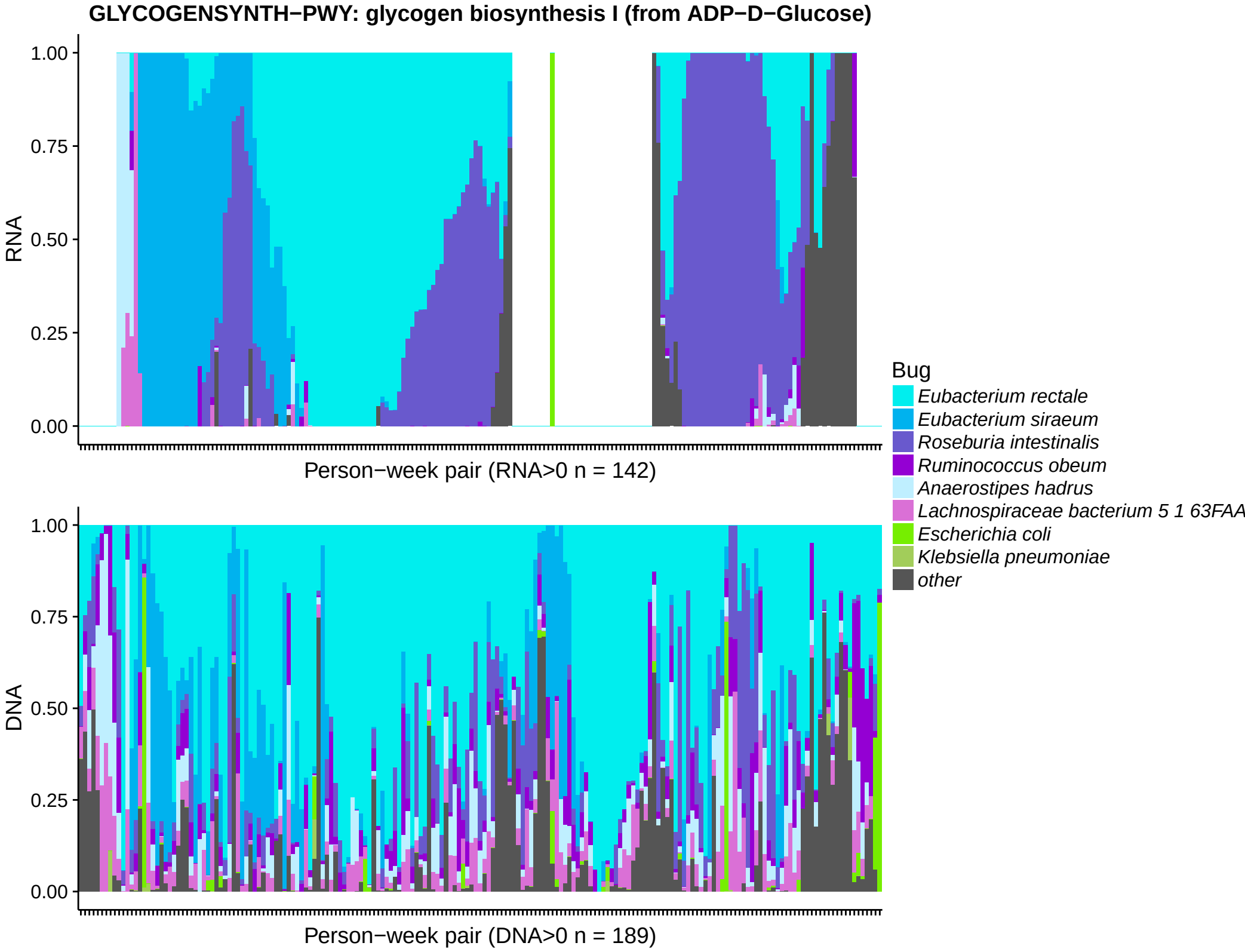

PWY−7219: adenosine ribonucleotides de novo biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 189)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes shahii
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Prevotella copri
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Lachnospiraceae bacterium 5 1 63FAA
Akkermansia muciniphila
other

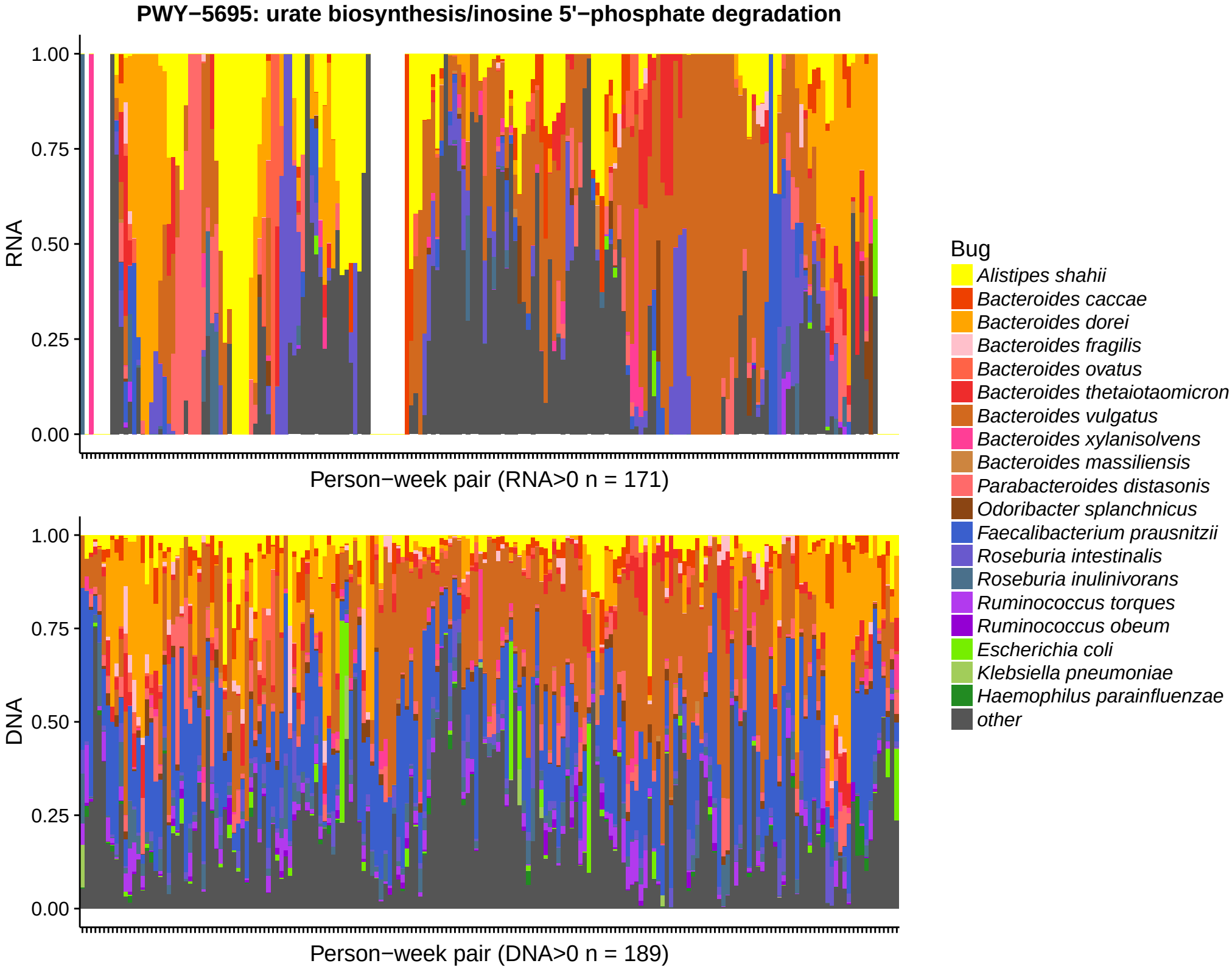

PWY−3841: folate transformations II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 178)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Eubacterium rectale
Streptococcus salivarius
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
other

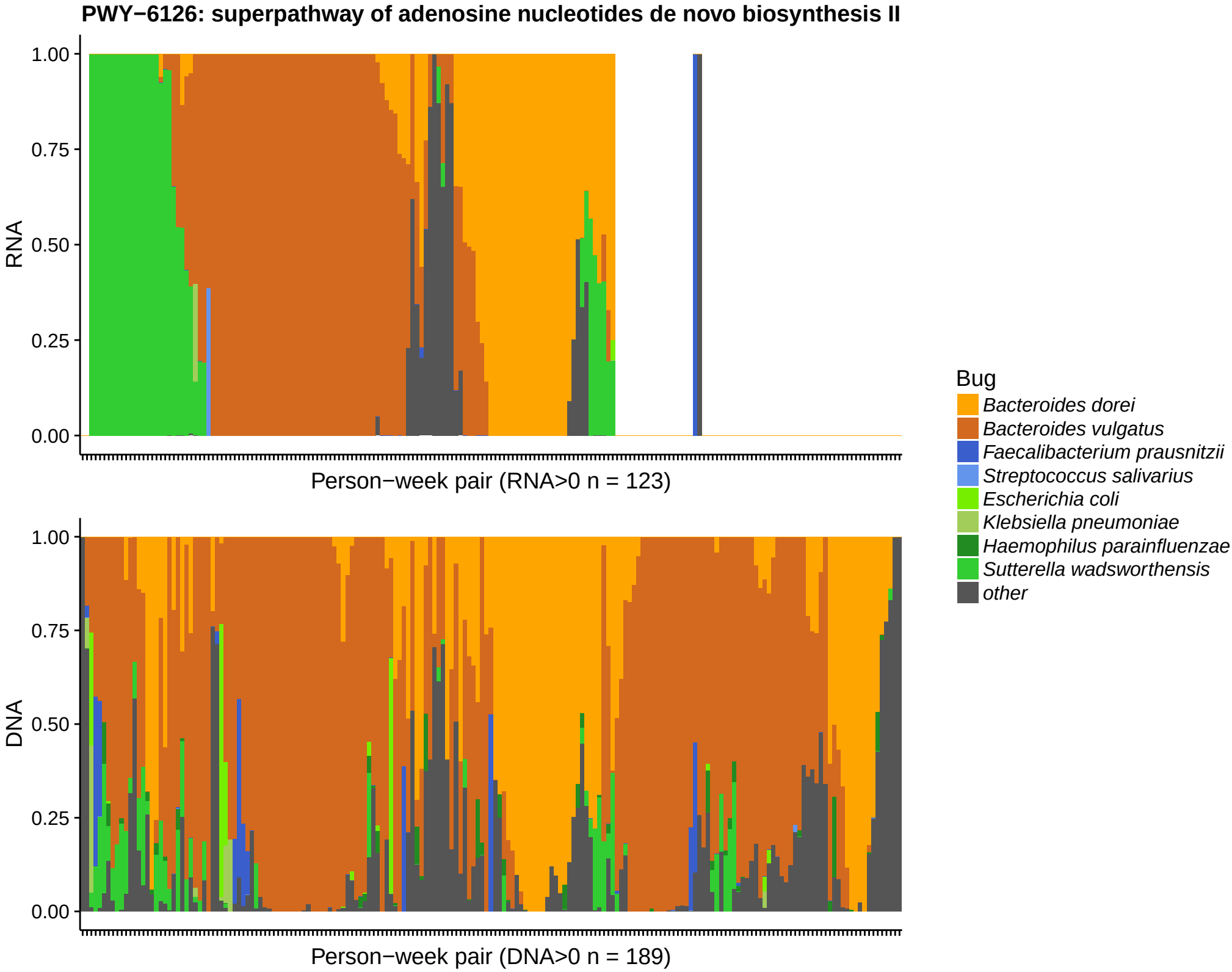

PWY−2942: L−lysine biosynthesis III
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 175)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Prevotella copri
Odoribacter splanchnicus
Eubacterium siraeum
Faecalibacterium prausnitzii
Ruminococcus torques
Ruminococcus obeum
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Akkermansia muciniphila
Escherichia coli
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

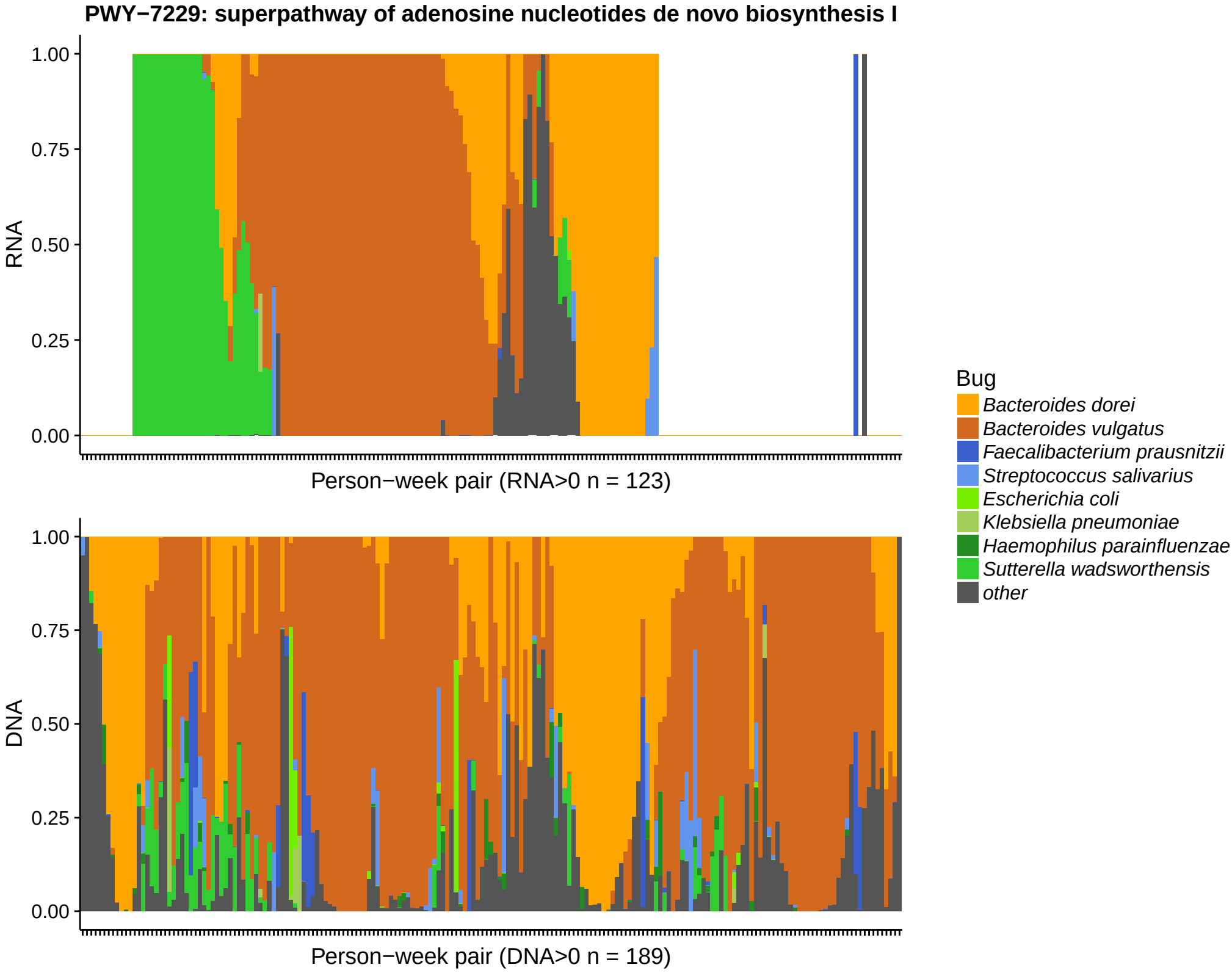

ARGININE−SYN4−PWY: L−ornithine de novo biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 161)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides xylanisolvens
Bacteroides massiliensis
other

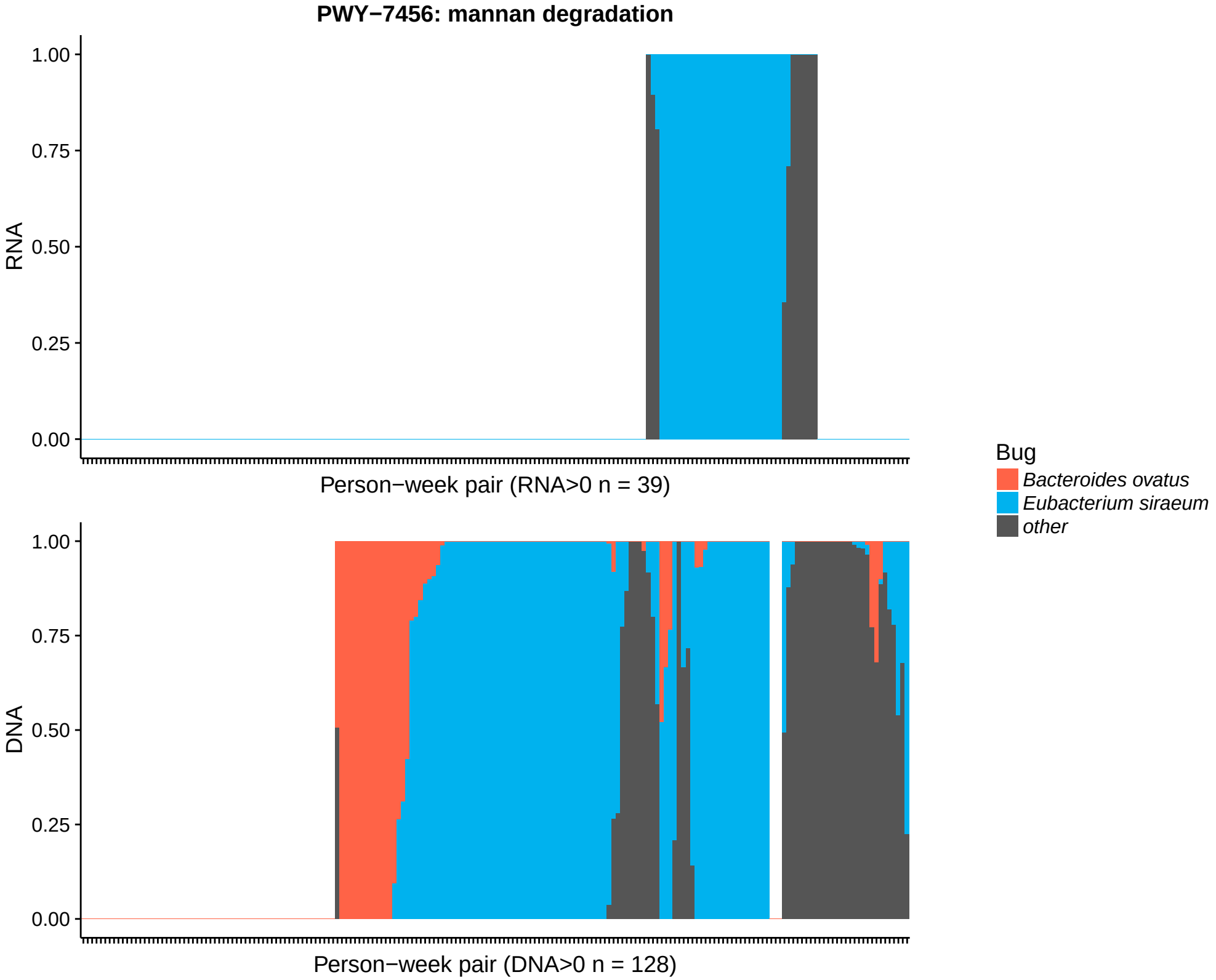

PWY−7221: guanosine ribonucleotides de novo biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 186)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes shahii
Alistipes finegoldii
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides distasonis
Prevotella copri
Odoribacter splanchnicus
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia inulinivorans
Ruminococcus obeum
Ruminococcus bromii
Streptococcus salivarius
Akkermansia muciniphila
Sutterella wadsworthensis
Methanobrevibacter smithii
other

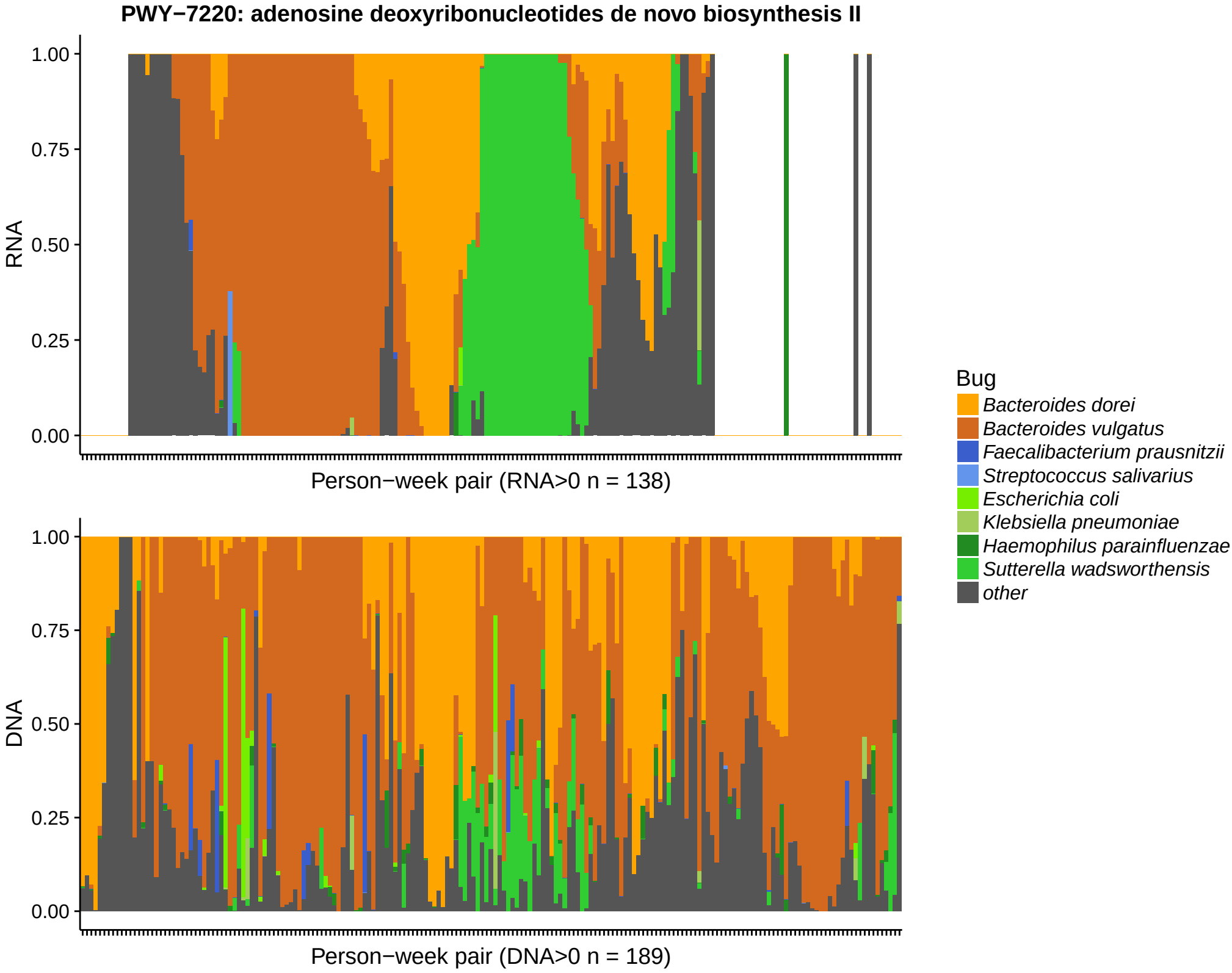

GLYCOGENSYNTH−PWY: glycogen biosynthesis I (from ADP−D−Glucose)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 142)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium rectale
Eubacterium siraeum
Roseburia intestinalis
Ruminococcus obeum
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
other

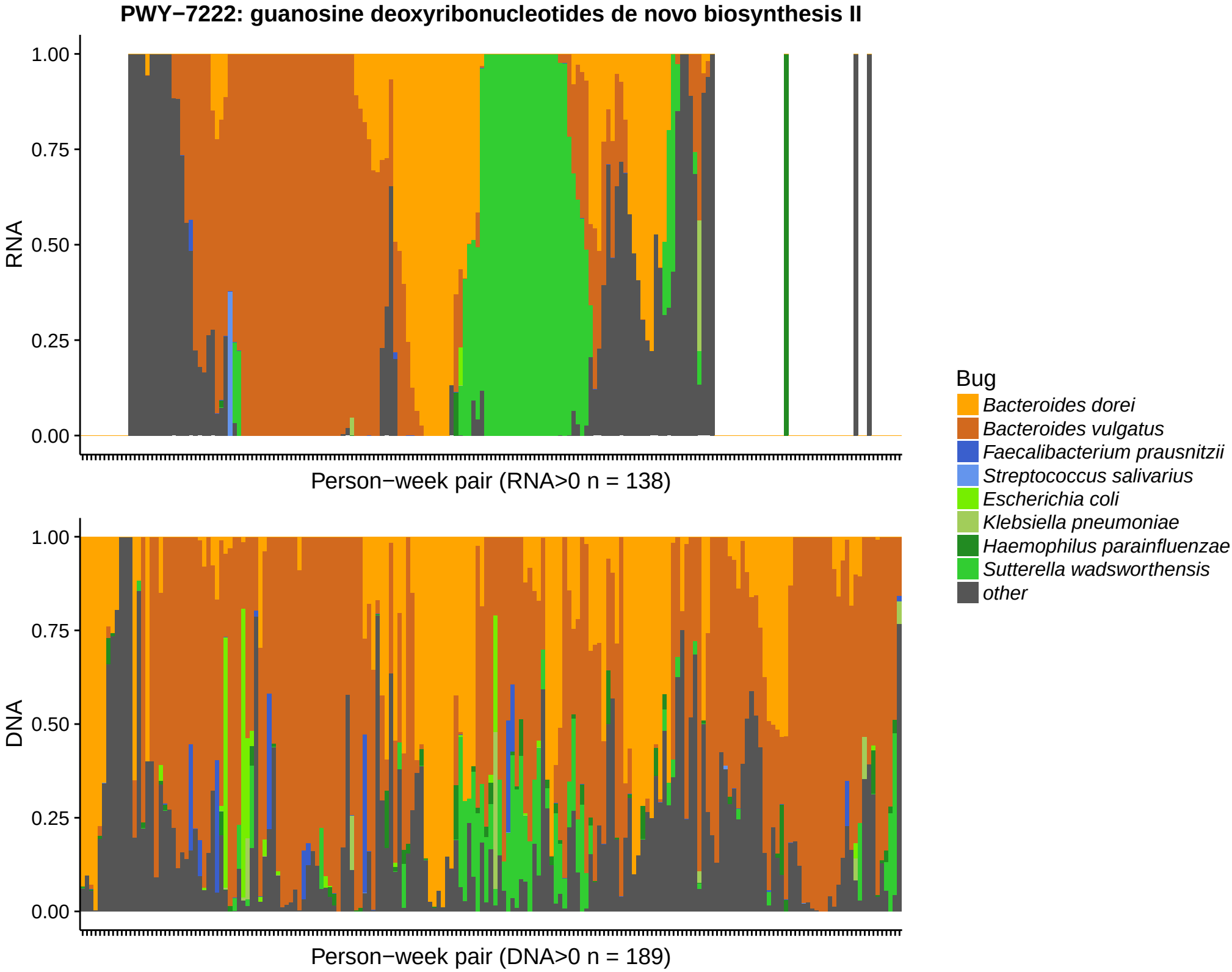

PWY−5695: urate biosynthesis/inosine 5'−phosphate degradation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 171)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides distasonis
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

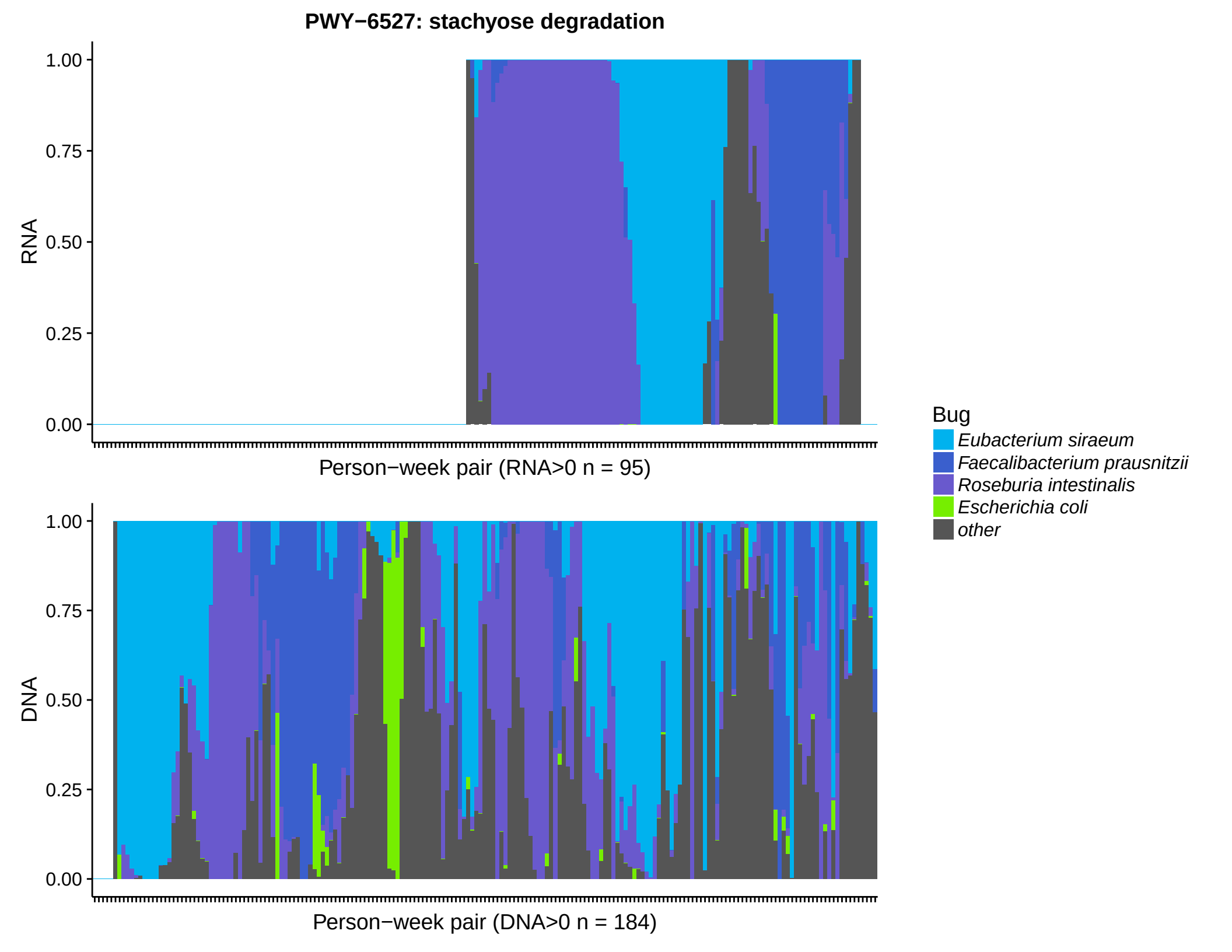

PWY−6126: superpathway of adenosine nucleotides de novo biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 123)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides dorei
Bacteroides vulgatus
Faecalibacterium prausnitzii
Streptococcus salivarius
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

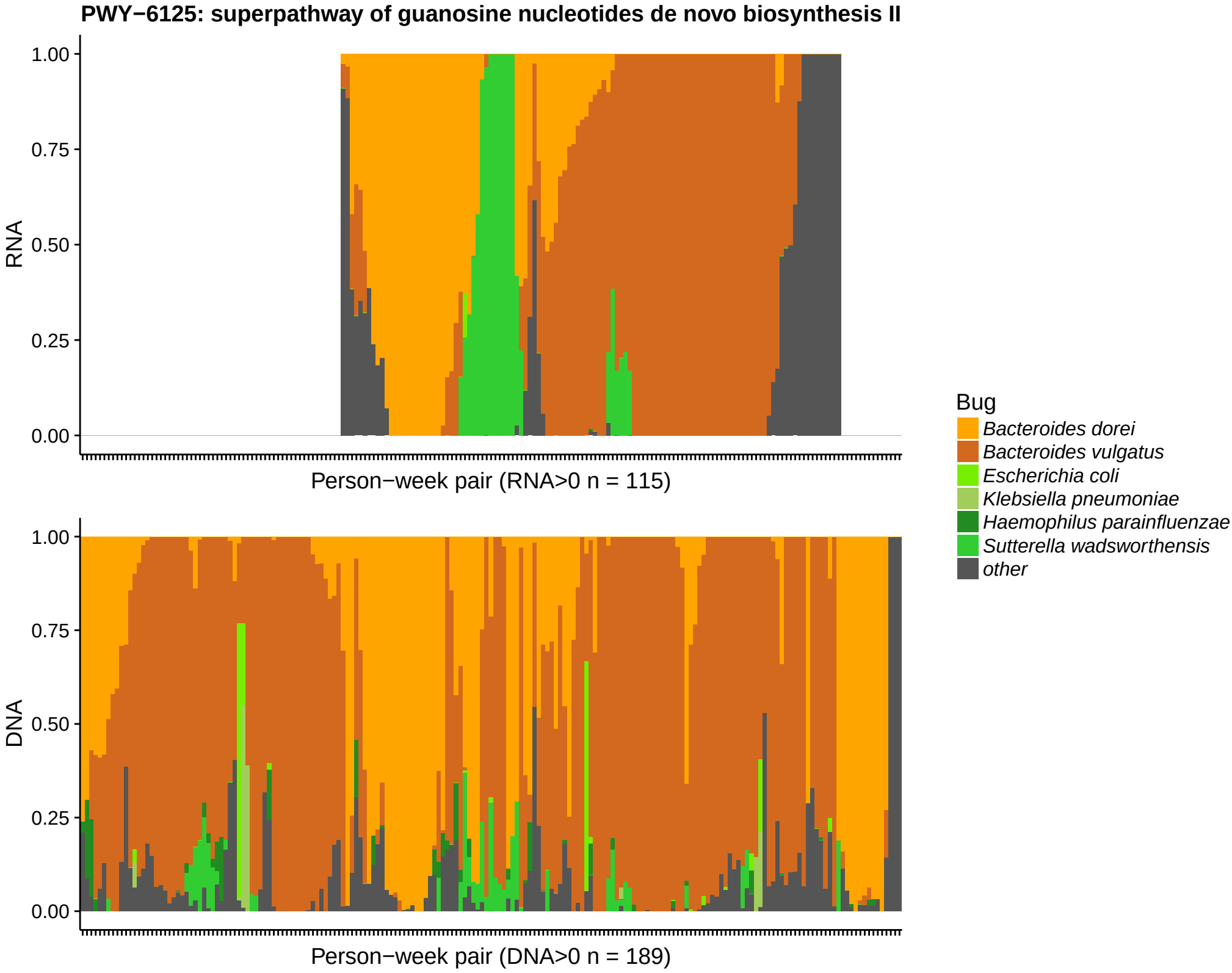

PWY−7229: superpathway of adenosine nucleotides de novo biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 123)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides dorei
Bacteroides vulgatus
Faecalibacterium prausnitzii
Streptococcus salivarius
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

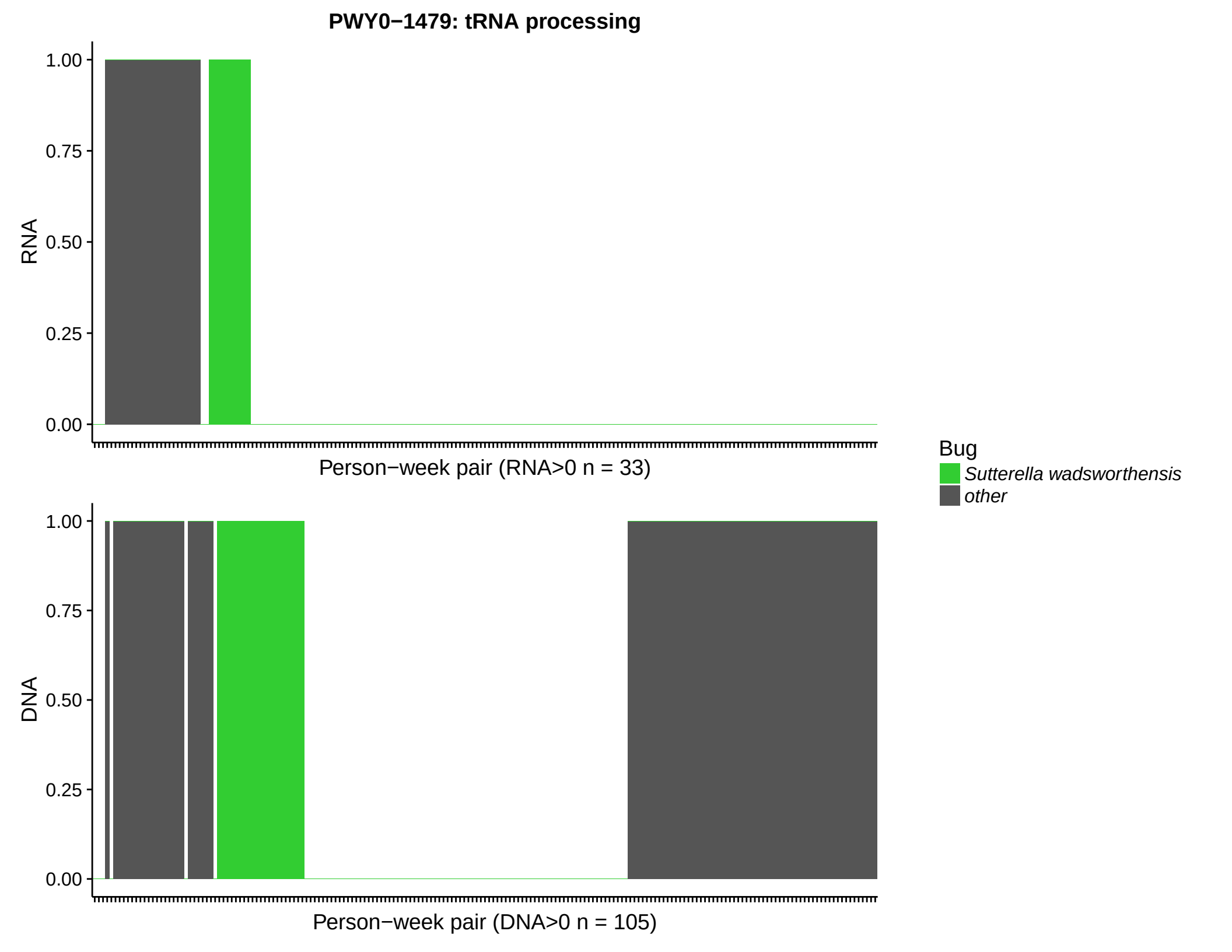

PWY−7456: mannan degradation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 39)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 128)
Bug
Bacteroides ovatus
Eubacterium siraeum
other

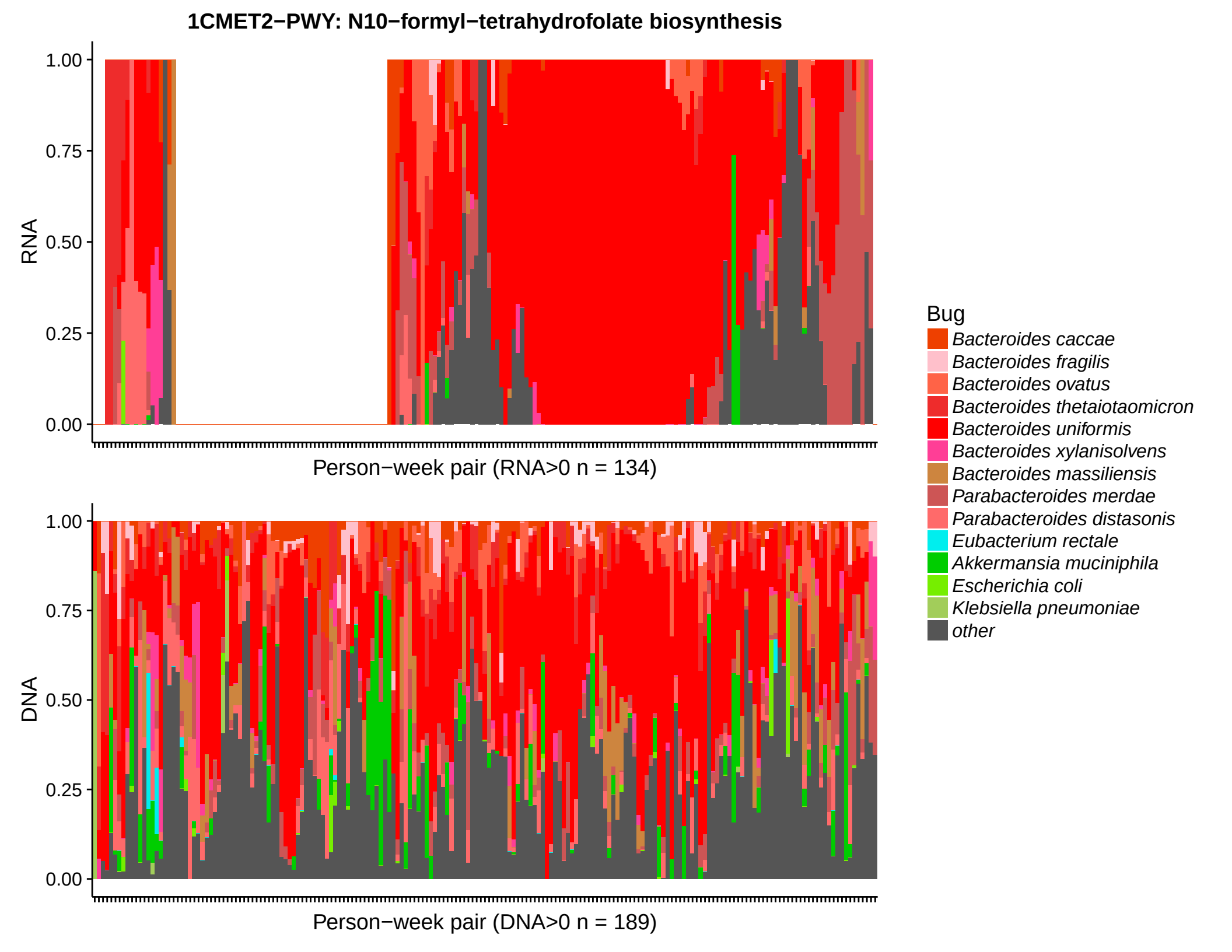

PWY−7220: adenosine deoxyribonucleotides de novo biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 138)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides dorei
Bacteroides vulgatus
Faecalibacterium prausnitzii
Streptococcus salivarius
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

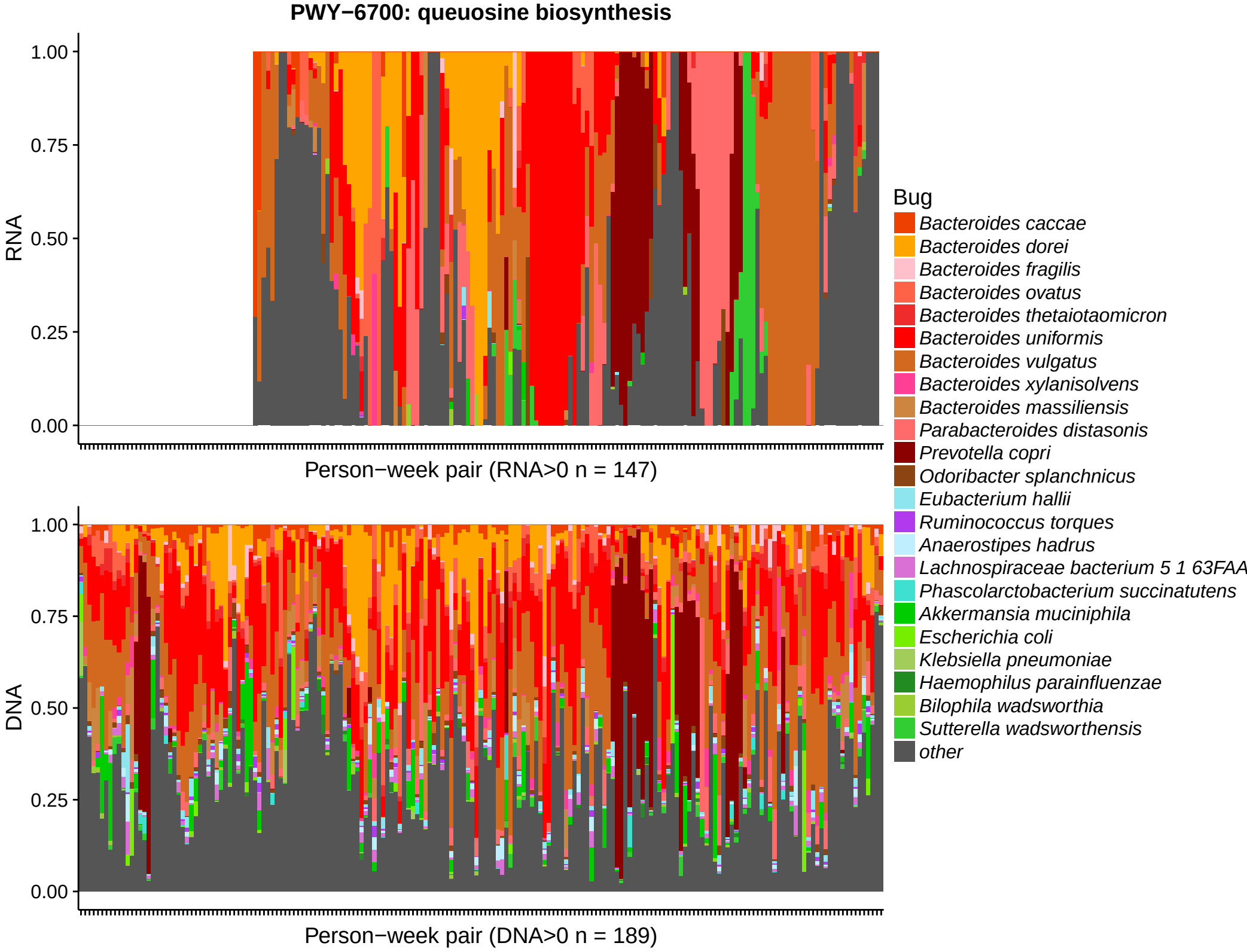

PWY−7222: guanosine deoxyribonucleotides de novo biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 138)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides dorei
Bacteroides vulgatus
Faecalibacterium prausnitzii
Streptococcus salivarius
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

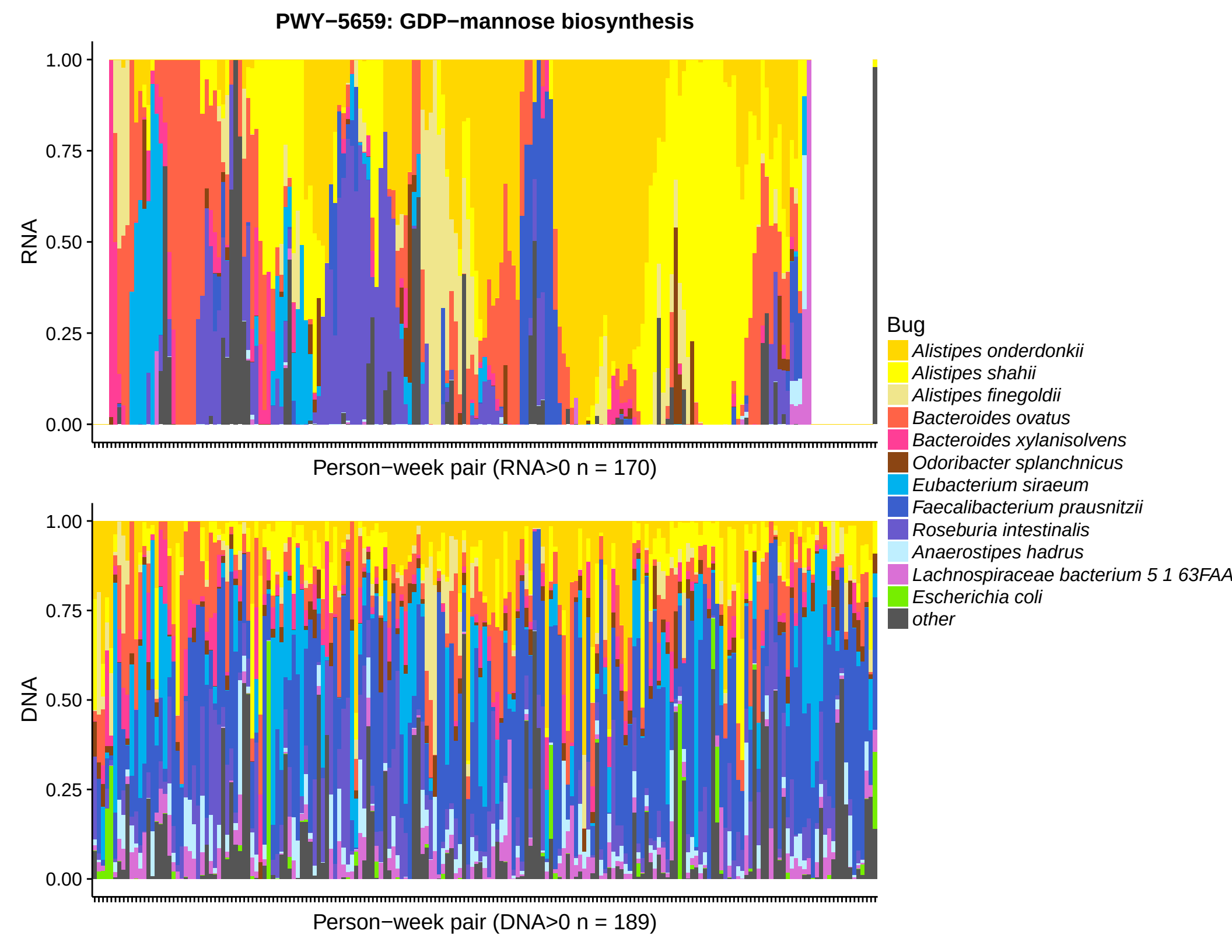

PWY−6527: stachyose degradation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 95)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 184)
Bug
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Escherichia coli
other

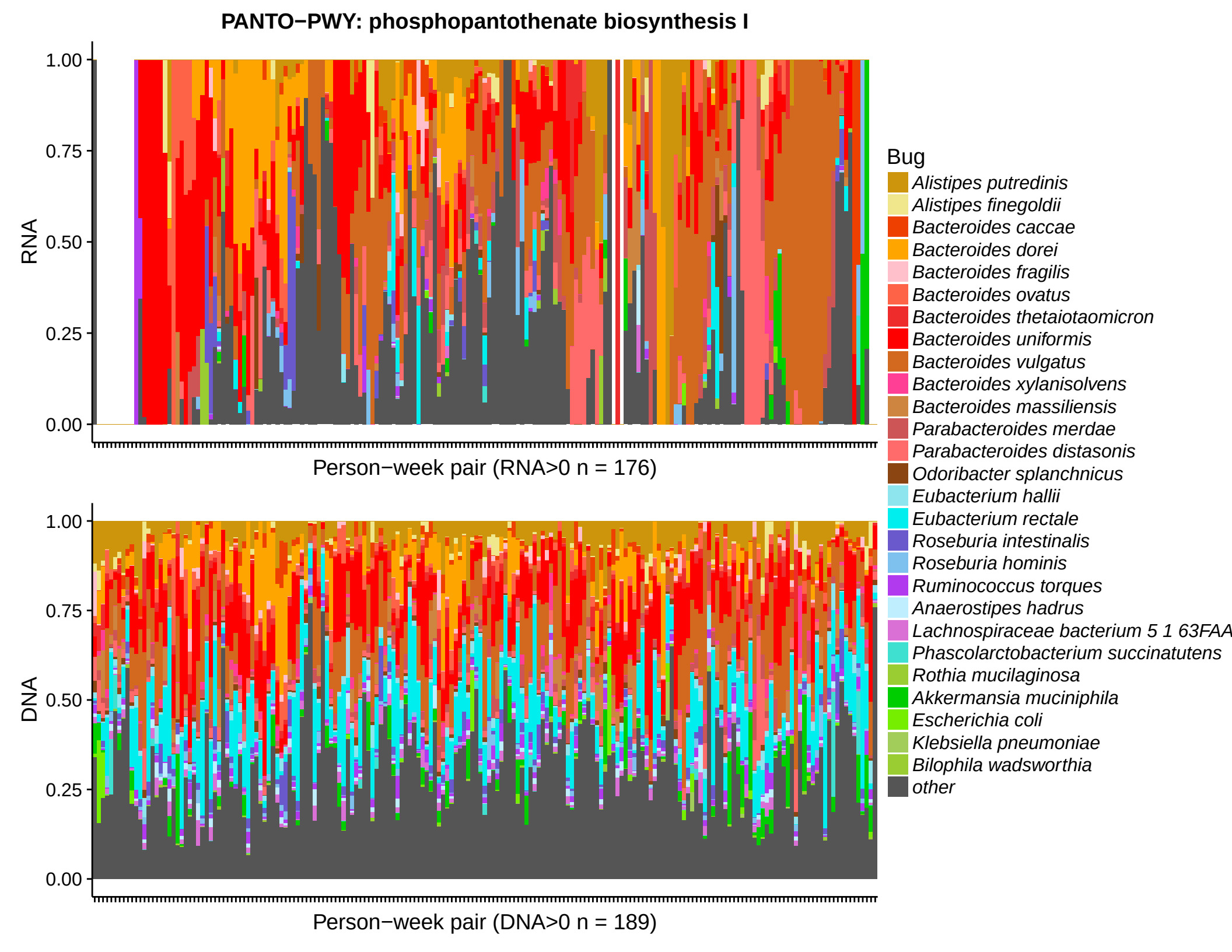

PWY−6125: superpathway of guanosine nucleotides de novo biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 115)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides dorei
Bacteroides vulgatus
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

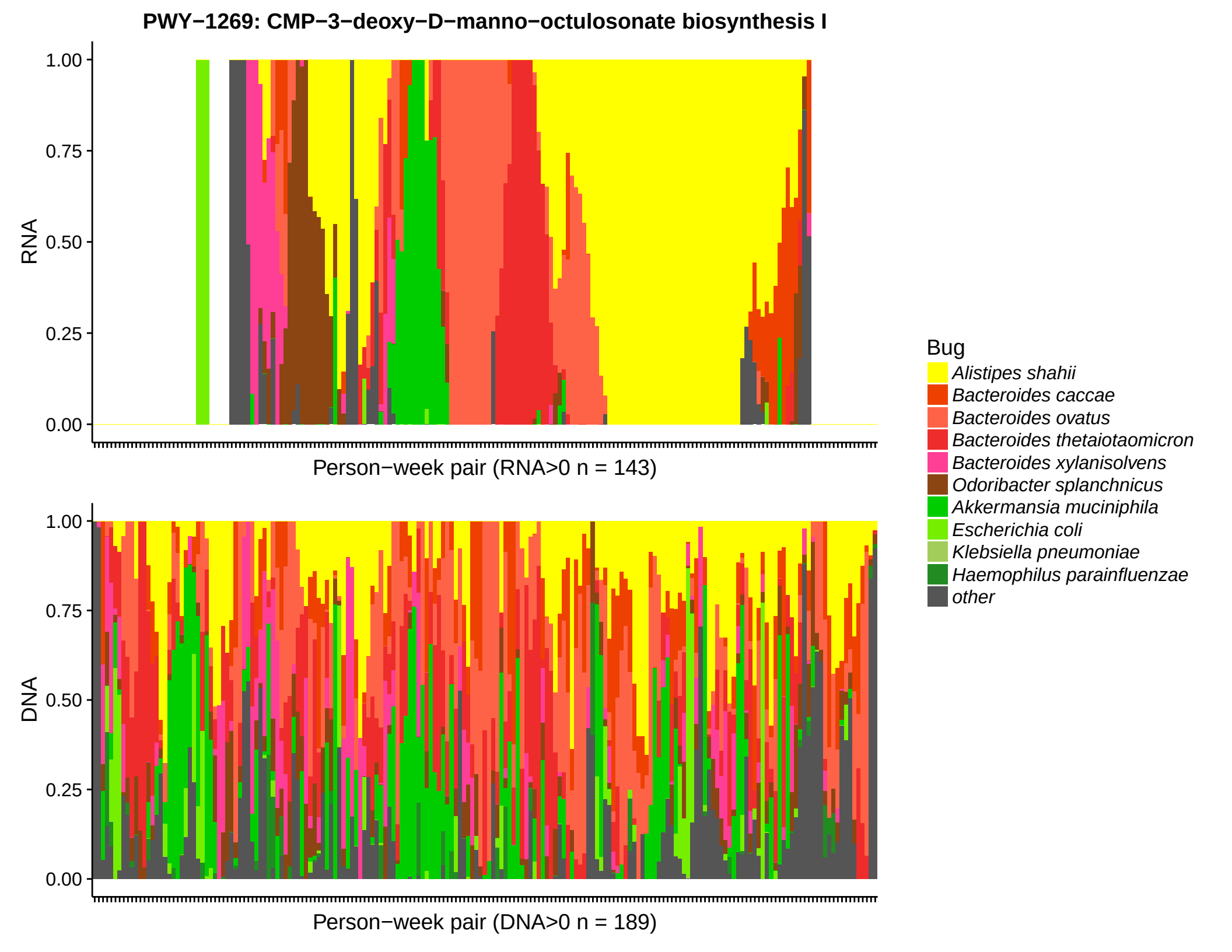

PWY0−1479: tRNA processing
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 33)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 105)
Bug
Sutterella wadsworthensis
other

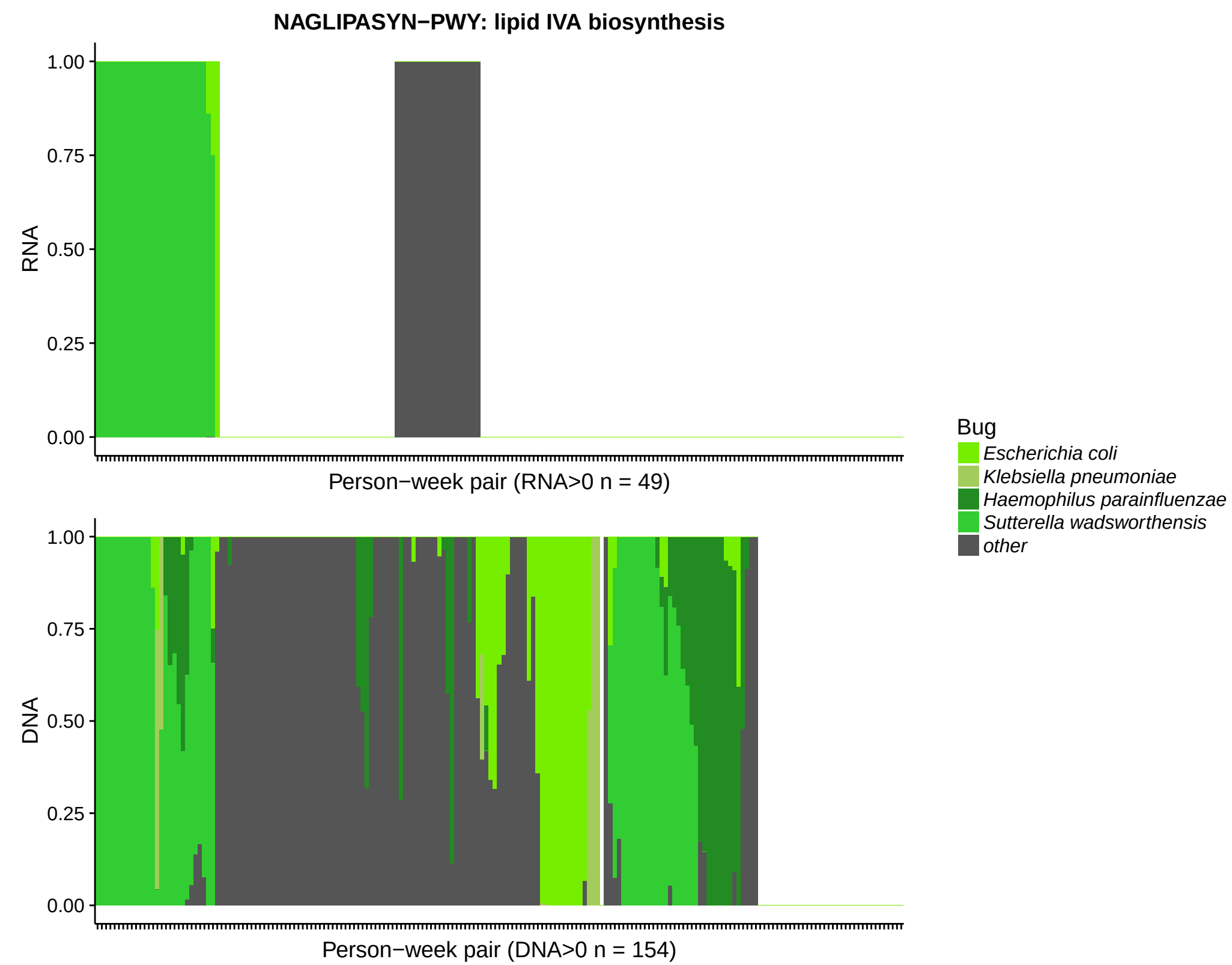

1CMET2−PWY: N10−formyl−tetrahydrofolate biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 134)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Eubacterium rectale
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
other

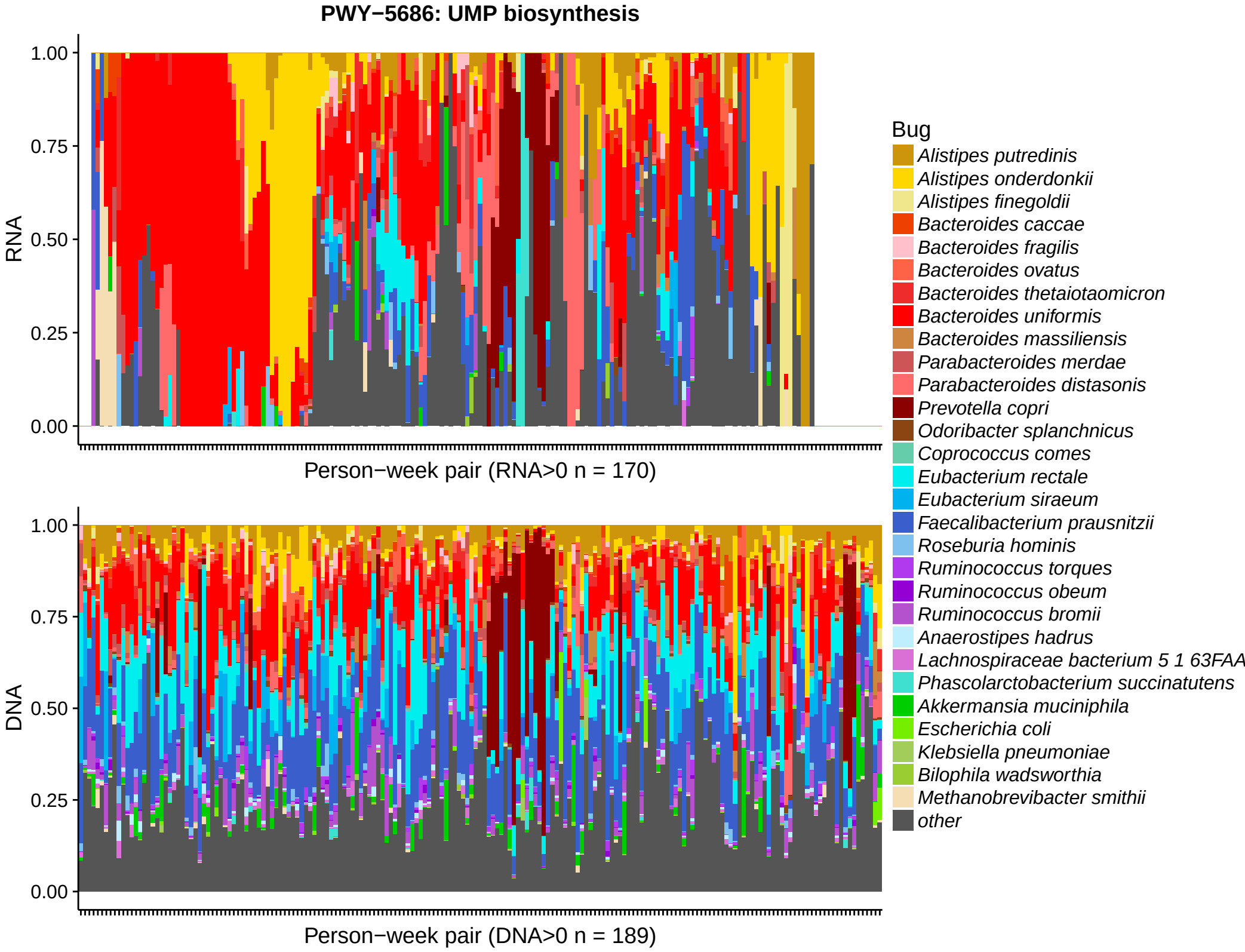

PWY−6700: queuosine biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 147)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides distasonis
Prevotella copri
Odoribacter splanchnicus
Eubacterium hallii
Ruminococcus torques
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
other

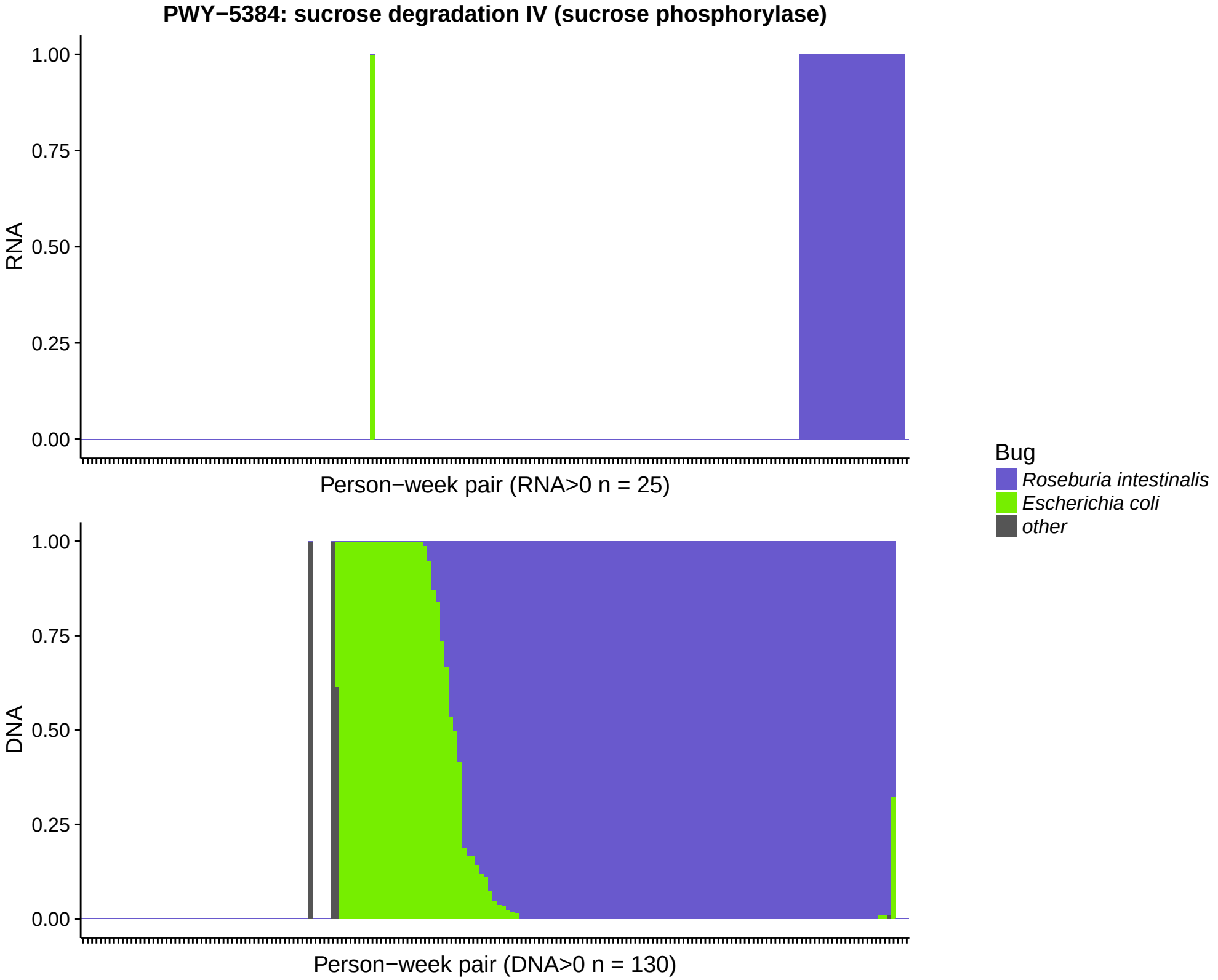

PWY−5659: GDP−mannose biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 170)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes onderdonkii
Alistipes shahii
Alistipes finegoldii
Bacteroides ovatus
Bacteroides xylanisolvens
Odoribacter splanchnicus
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
other

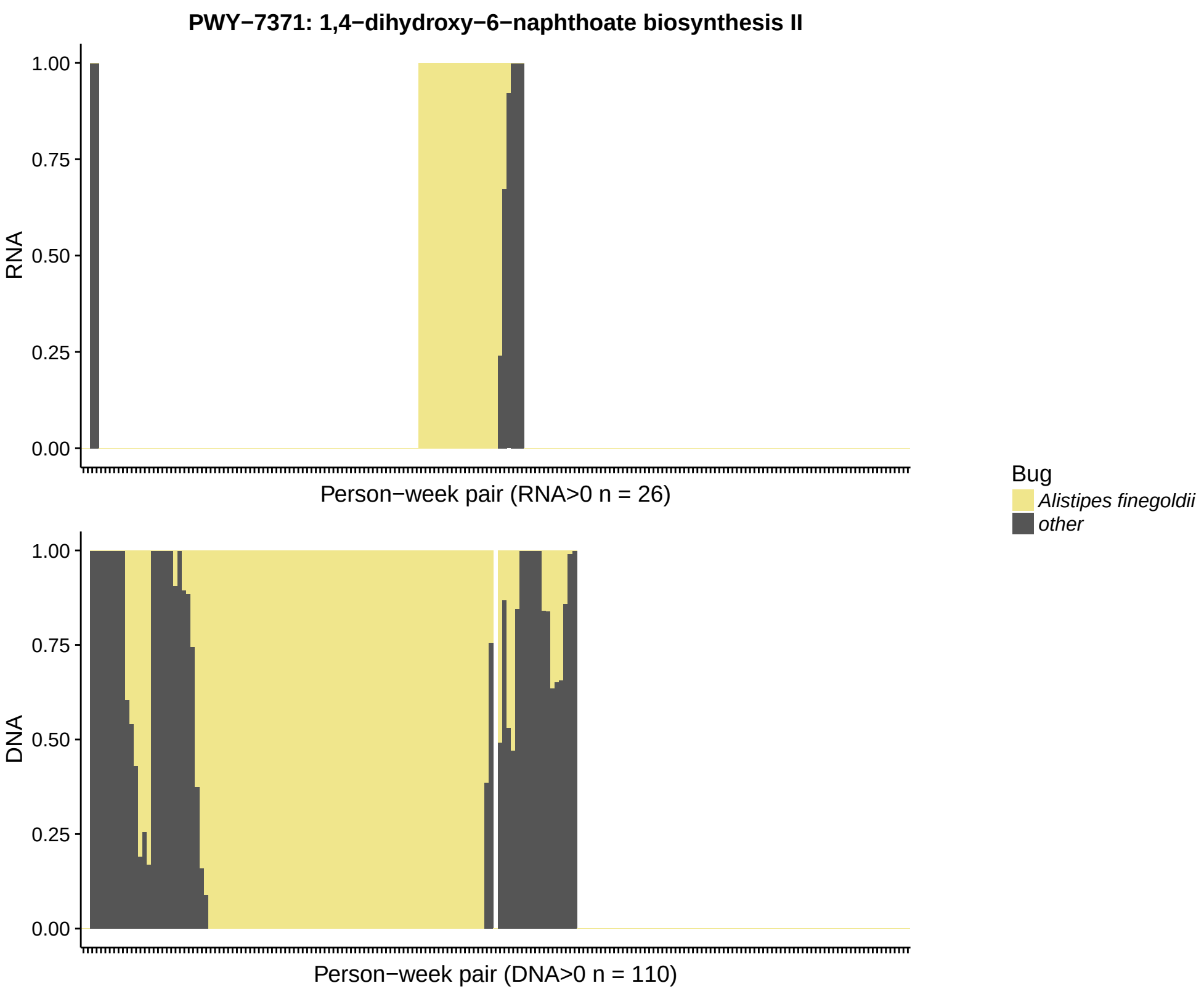

PANTO−PWY: phosphopantothenate biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 176)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes finegoldii
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Odoribacter splanchnicus
Eubacterium hallii
Eubacterium rectale
Roseburia intestinalis
Roseburia hominis
Ruminococcus torques
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Rothia mucilaginosa
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Bilophila wadsworthia
other

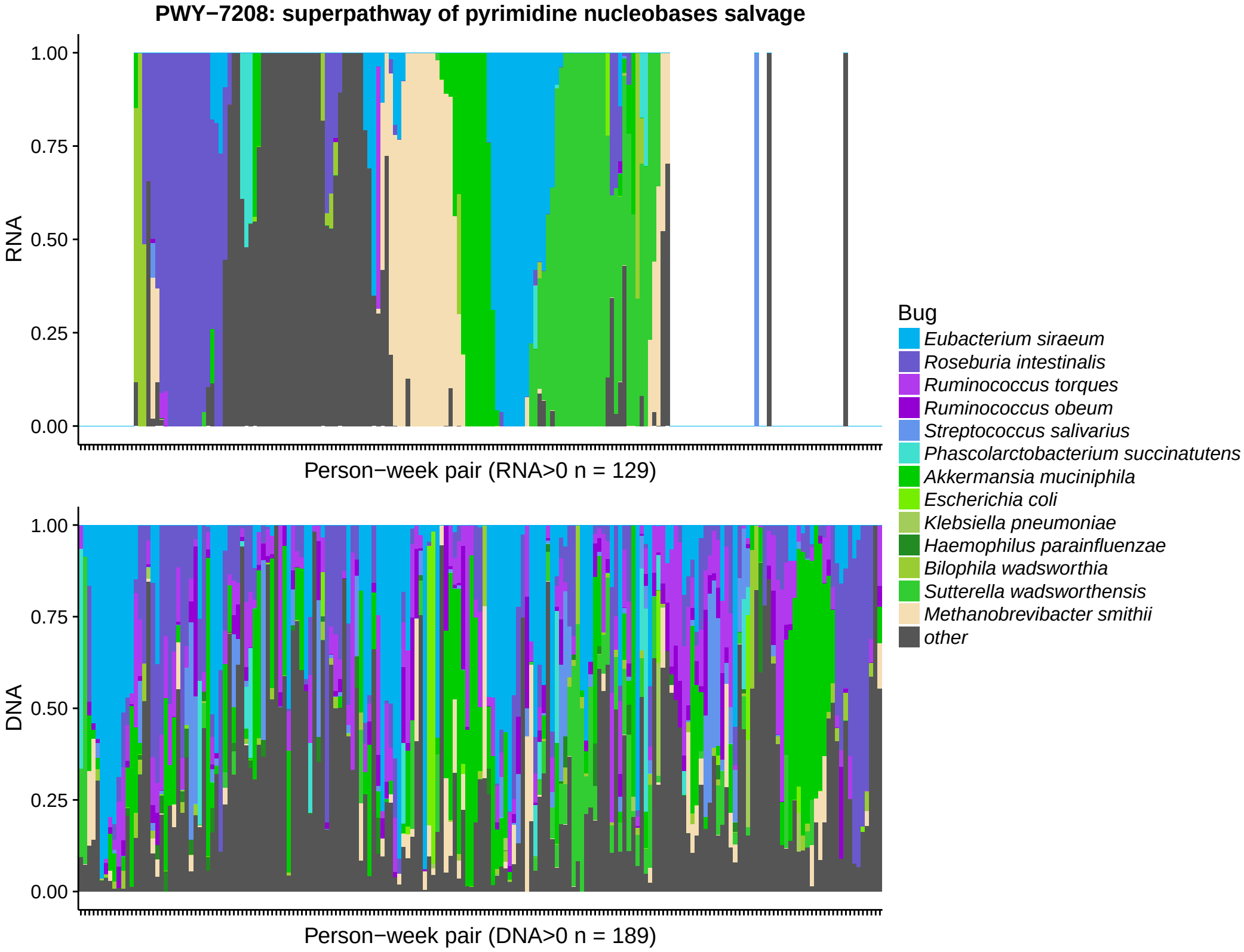

PWY−1269: CMP−3−deoxy−D−manno−octulosonate biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 143)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Bacteroides caccae
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Odoribacter splanchnicus
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

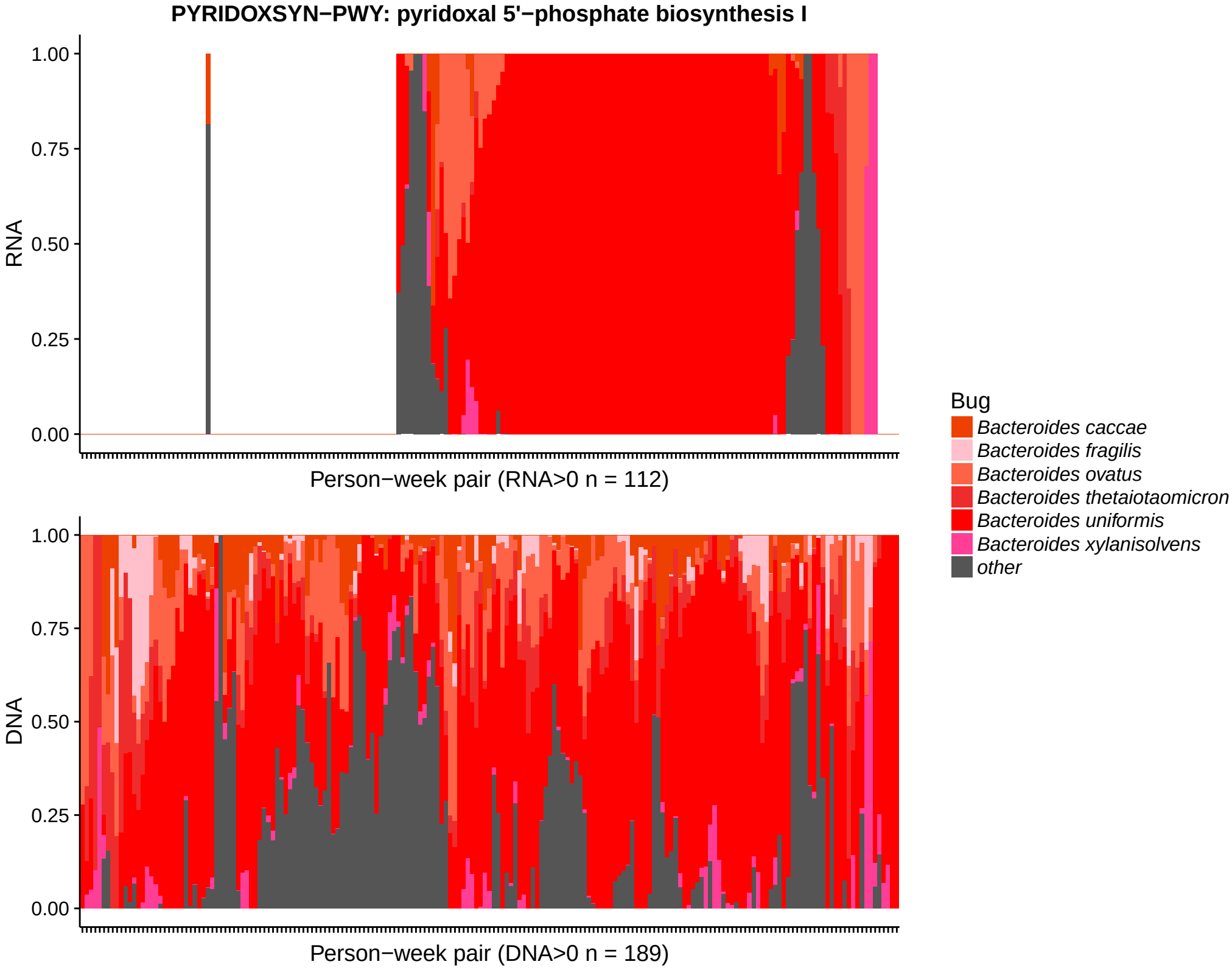

NAGLIPASYN−PWY: lipid IVA biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 49)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 154)
Bug
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

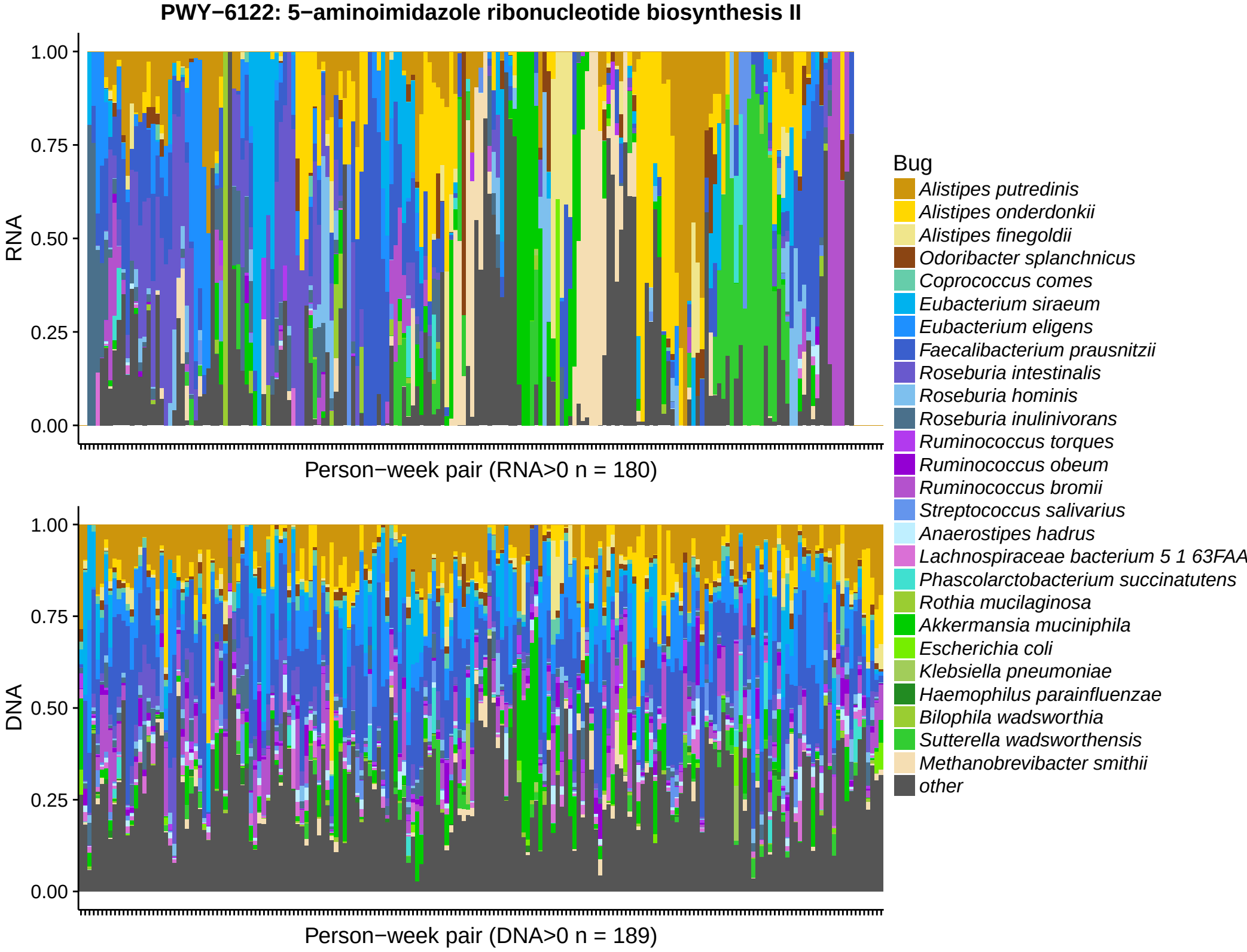

PWY−5686: UMP biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 170)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes finegoldii
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Prevotella copri
Odoribacter splanchnicus
Coprococcus comes
Eubacterium rectale
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia hominis
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Bilophila wadsworthia
Methanobrevibacter smithii
other

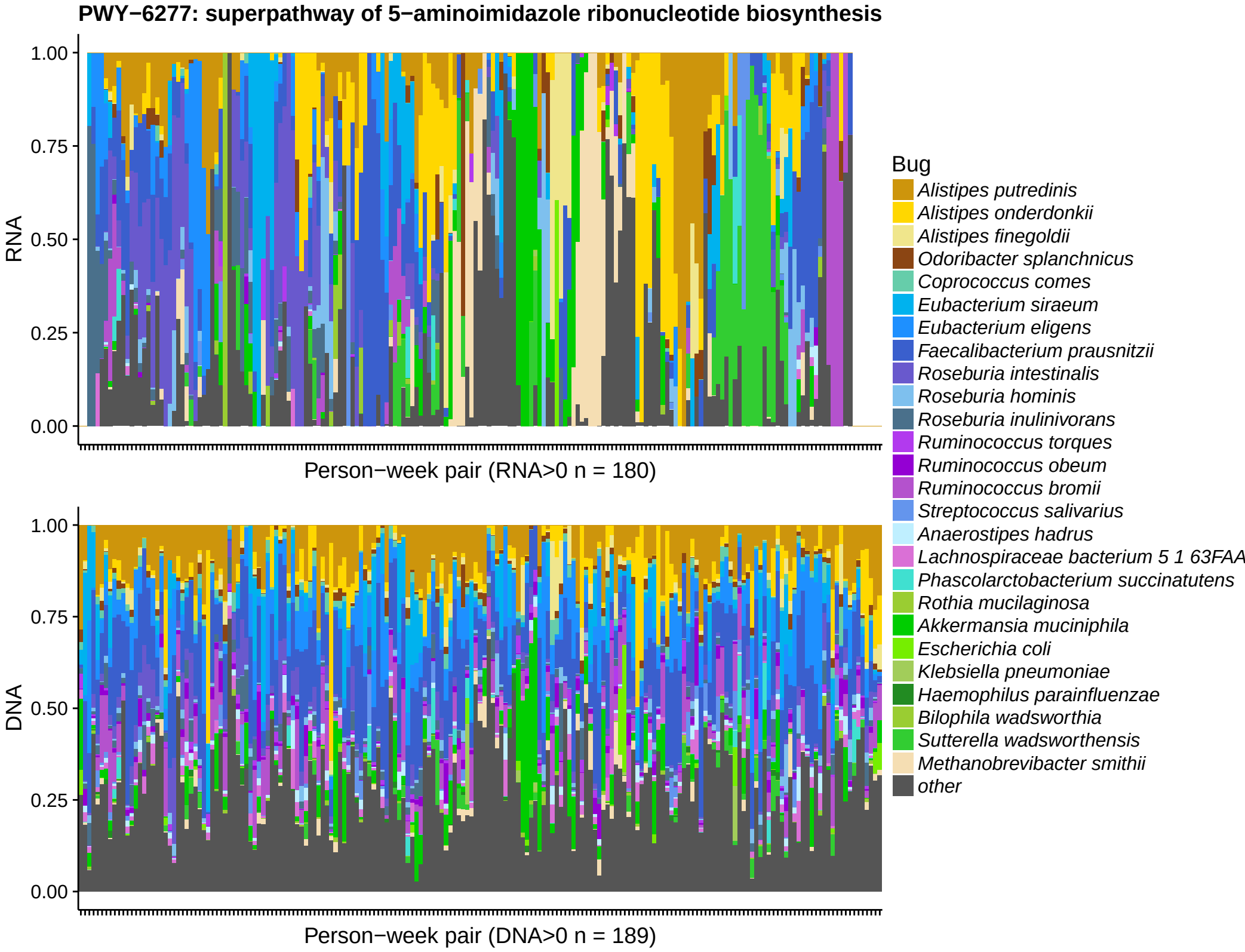

PWY−5384: sucrose degradation IV (sucrose phosphorylase)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 25)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 130)
Bug
Roseburia intestinalis
Escherichia coli
other

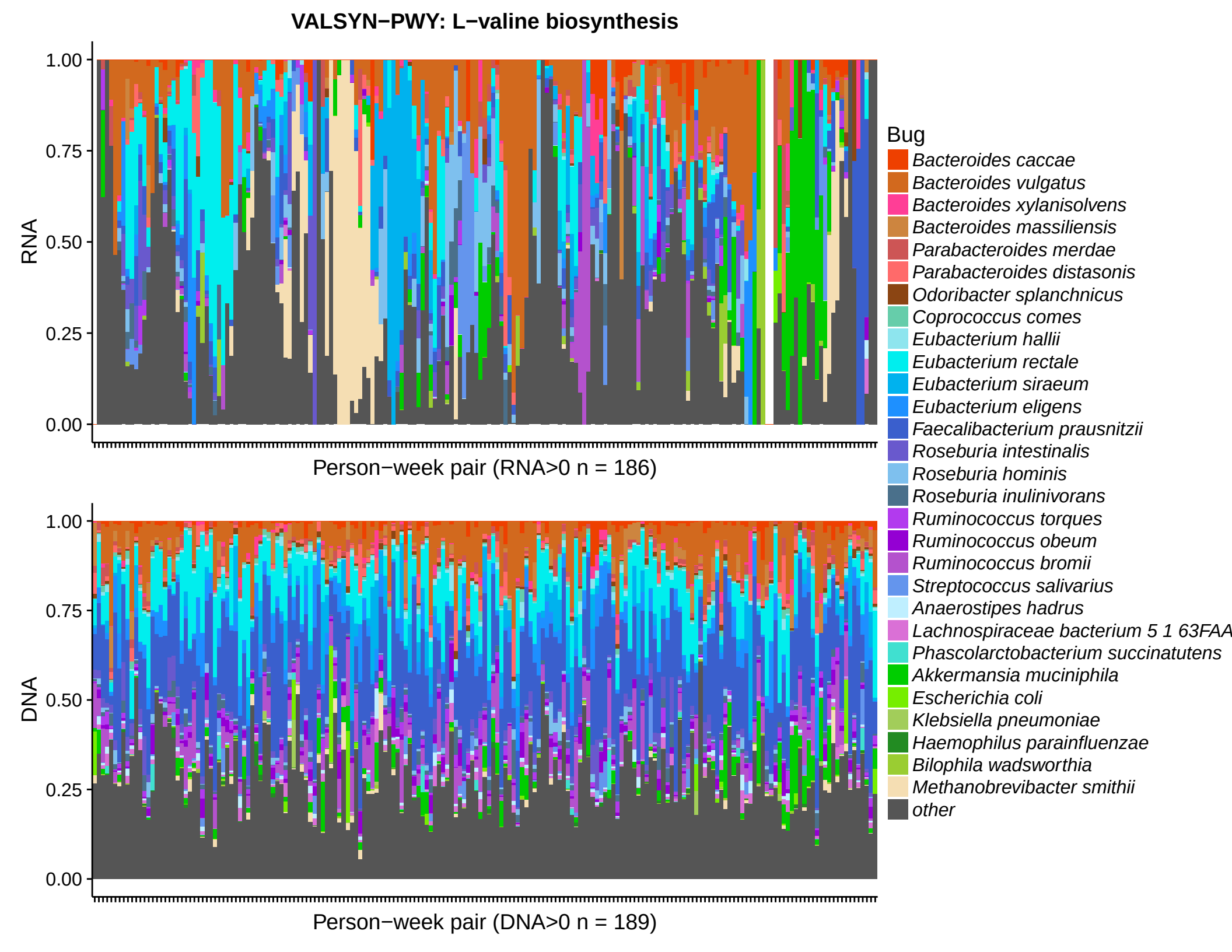

PWY−7371: 1,4−dihydroxy−6−naphthoate biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 26)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 110)
Bug
Alistipes finegoldii
other

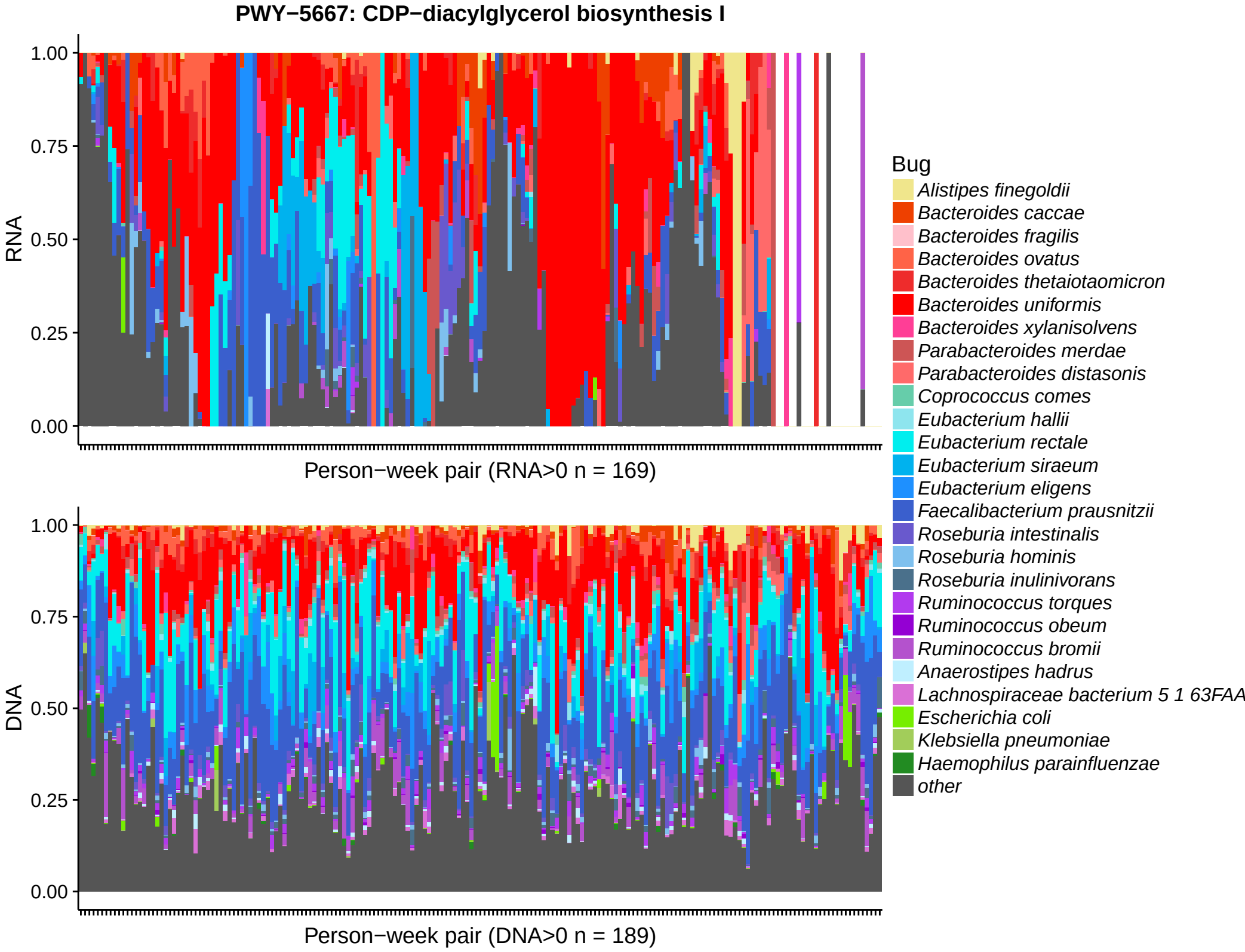

PWY−7208: superpathway of pyrimidine nucleobases salvage
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 129)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium siraeum
Roseburia intestinalis
Ruminococcus torques
Ruminococcus obeum
Streptococcus salivarius
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

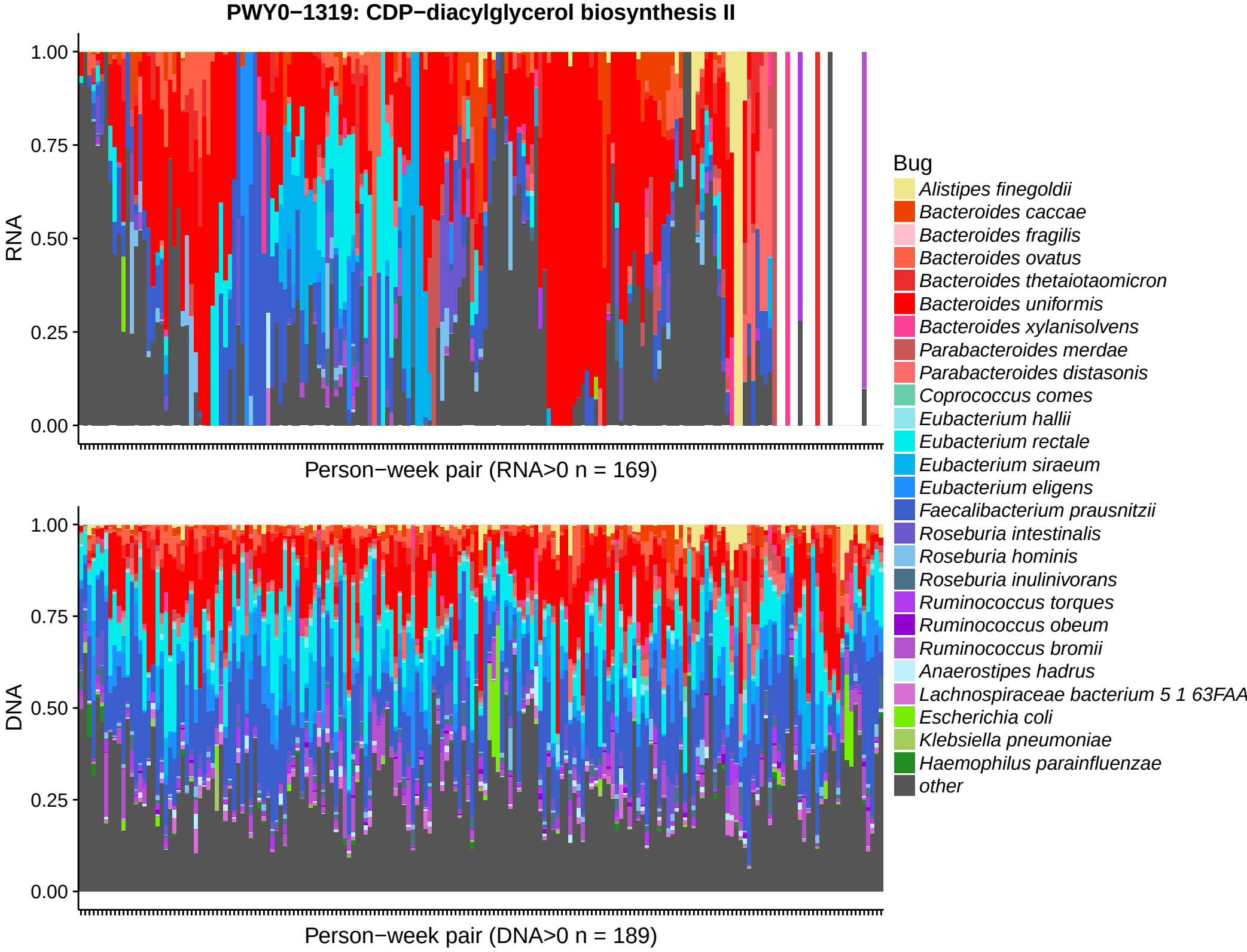

PYRIDOXSYN−PWY: pyridoxal 5'−phosphate biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 112)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides xylanisolvens
other

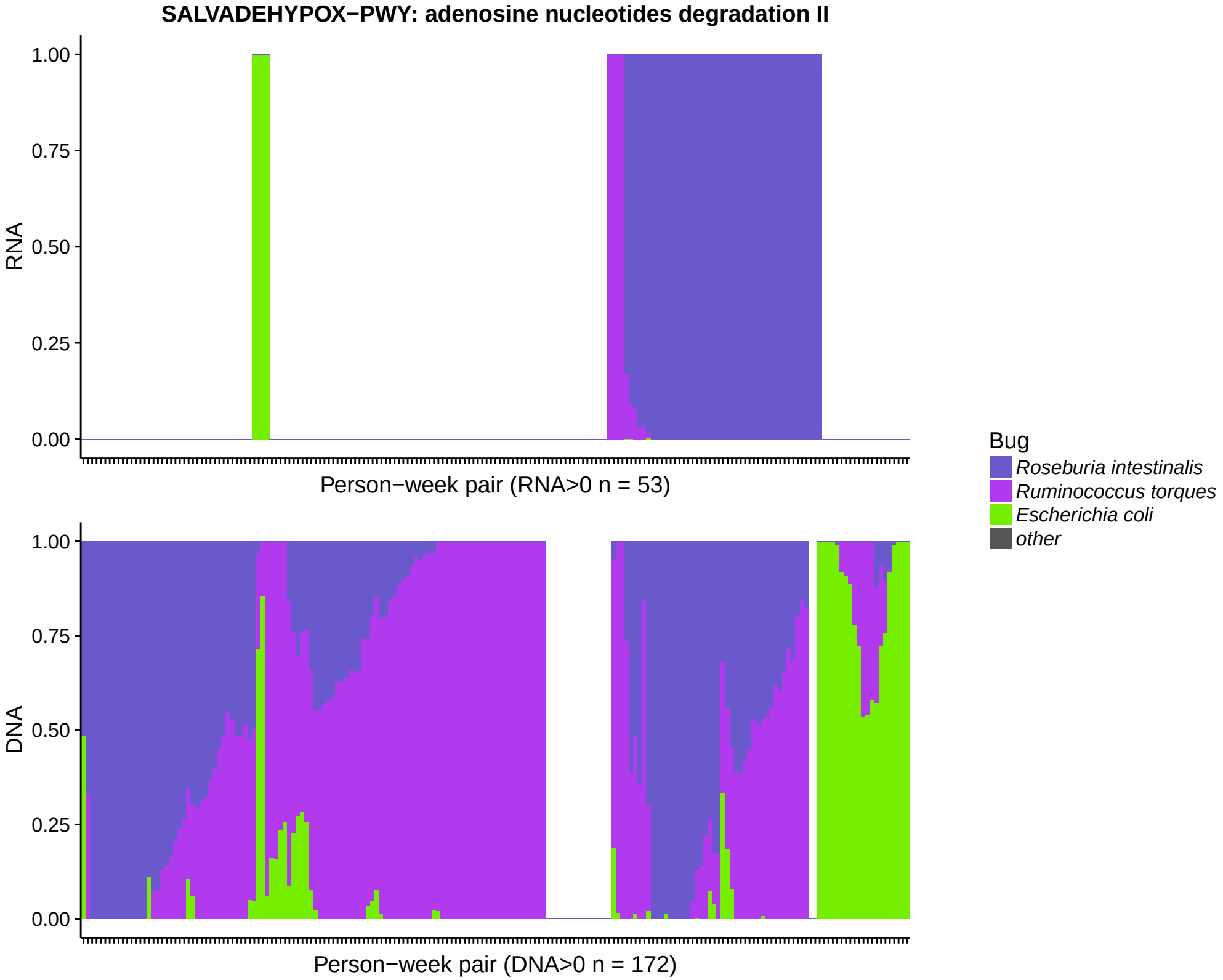

PWY−6122: 5−aminoimidazole ribonucleotide biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 180)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes finegoldii
Odoribacter splanchnicus
Coprococcus comes
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Rothia mucilaginosa
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

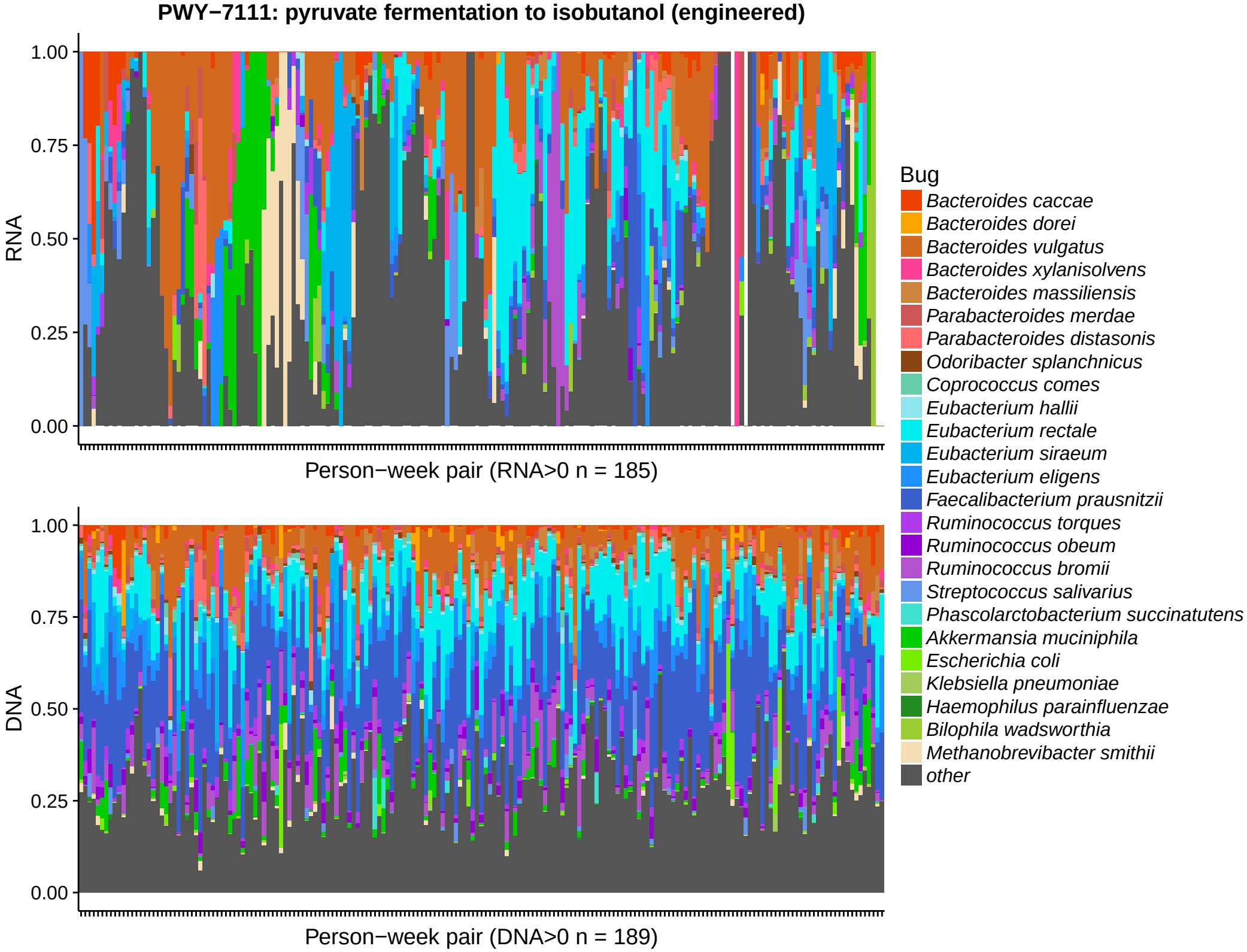

PWY−6277: superpathway of 5−aminoimidazole ribonucleotide biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 180)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes finegoldii
Odoribacter splanchnicus
Coprococcus comes
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Rothia mucilaginosa
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

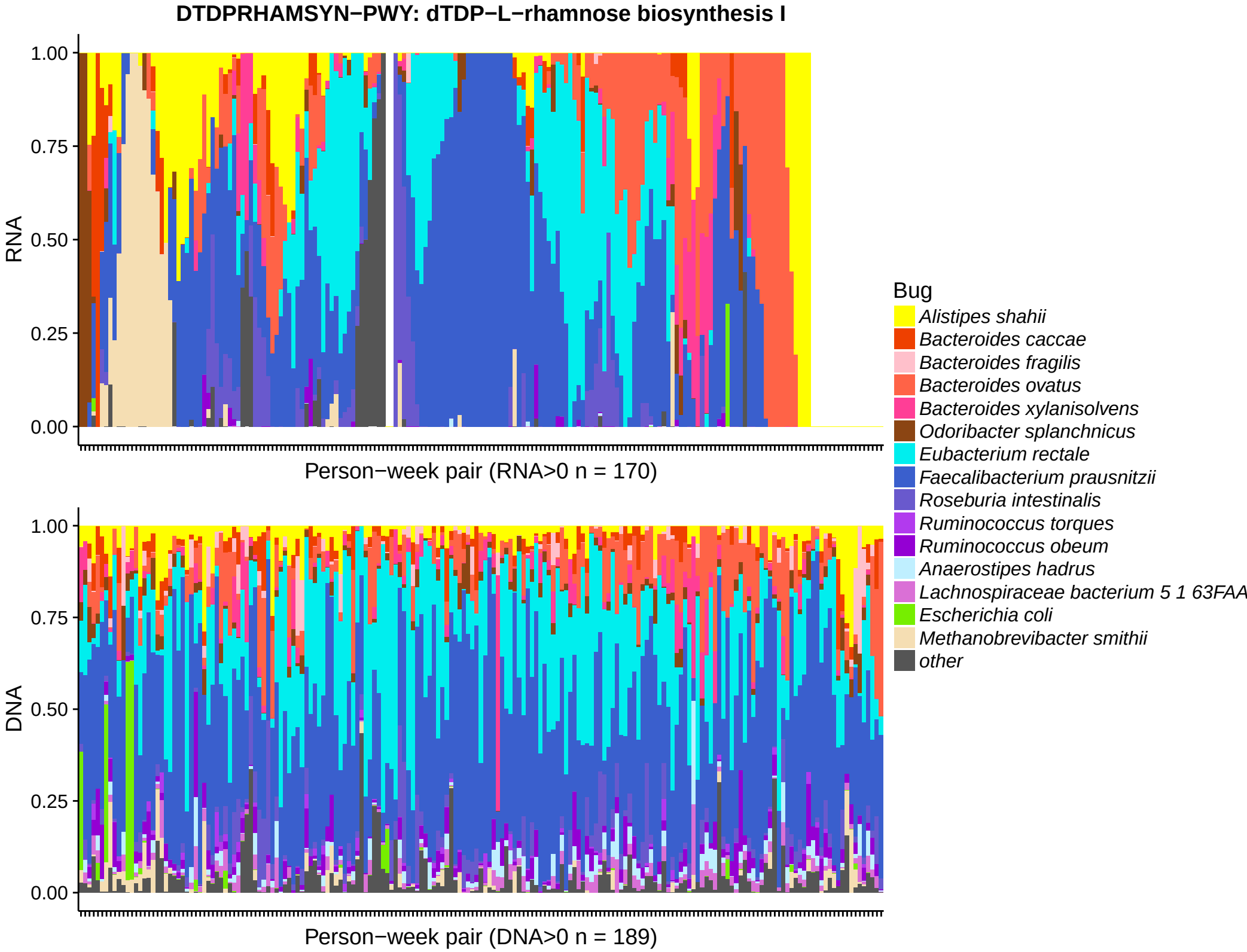

VALSYN−PWY: L−valine biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 186)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Odoribacter splanchnicus
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Methanobrevibacter smithii
other

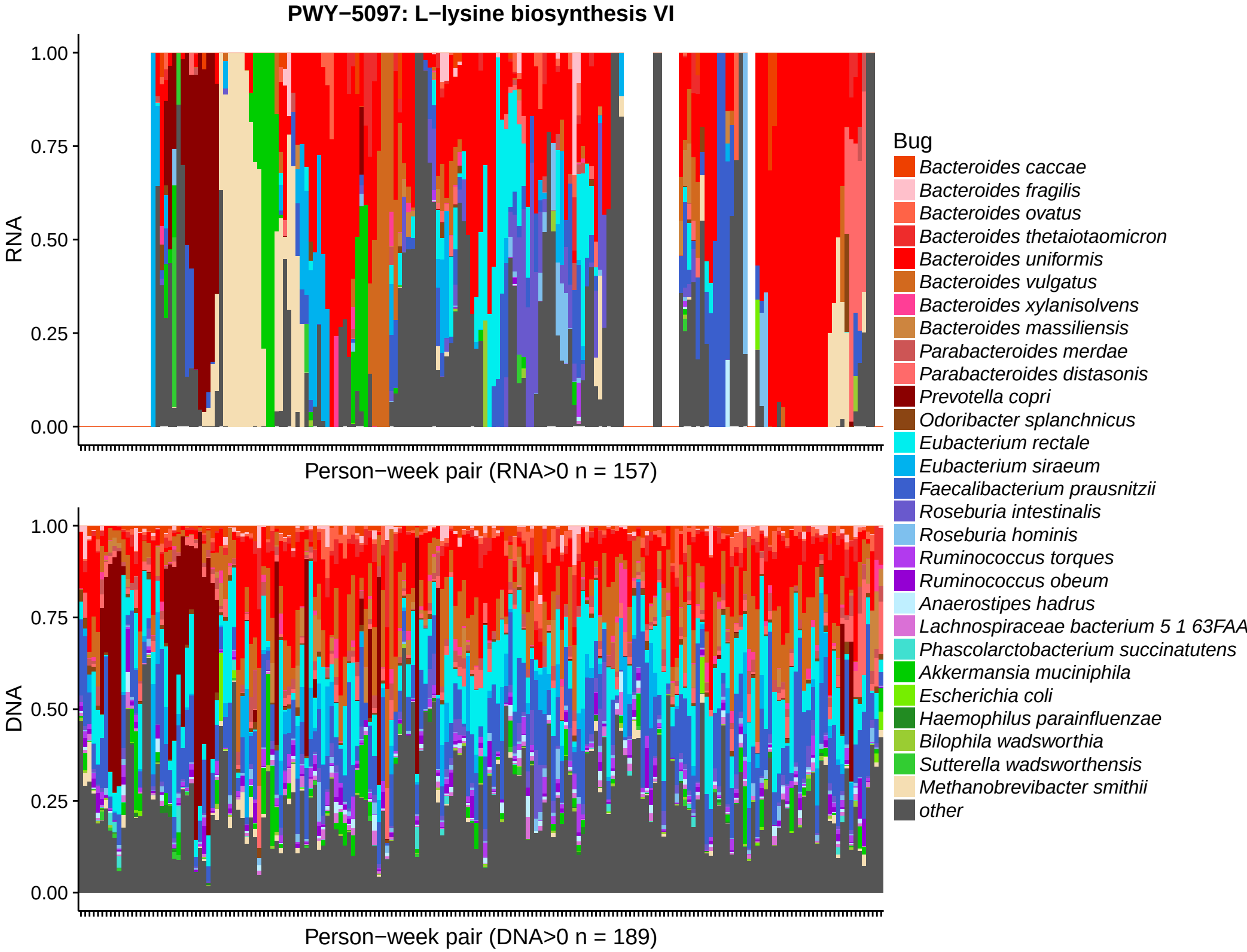

PWY−5667: CDP−diacylglycerol biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 169)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes finegoldii
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides xylanisolvens
Parabacteroides merdae
Parabacteroides distasonis
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

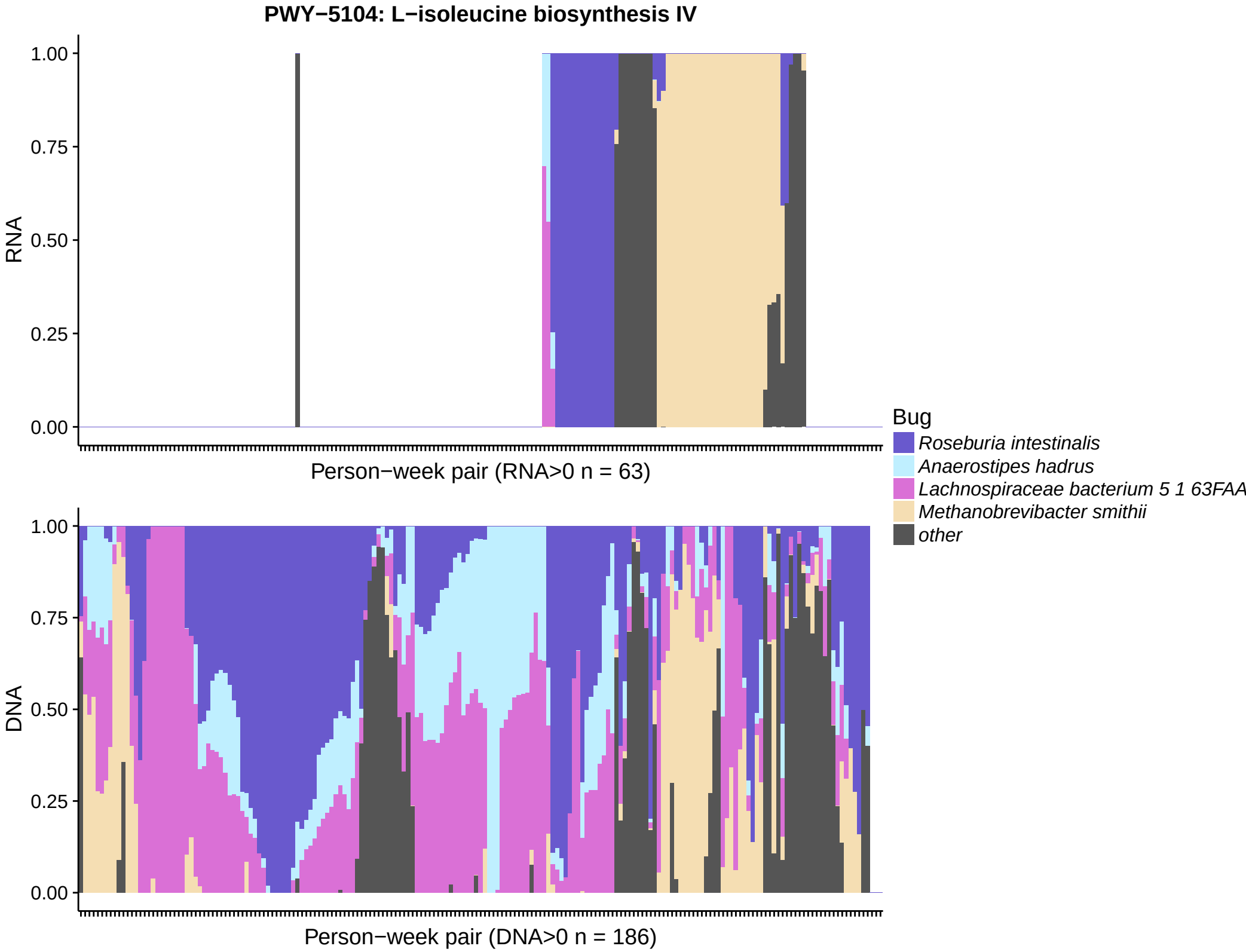

PWY0−1319: CDP−diacylglycerol biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 169)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes finegoldii
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides xylanisolvens
Parabacteroides merdae
Parabacteroides distasonis
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other


SALVADEHYPOX−PWY: adenosine nucleotides degradation II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 53)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 172)
Bug
Roseburia intestinalis
Ruminococcus torques
Escherichia coli
other

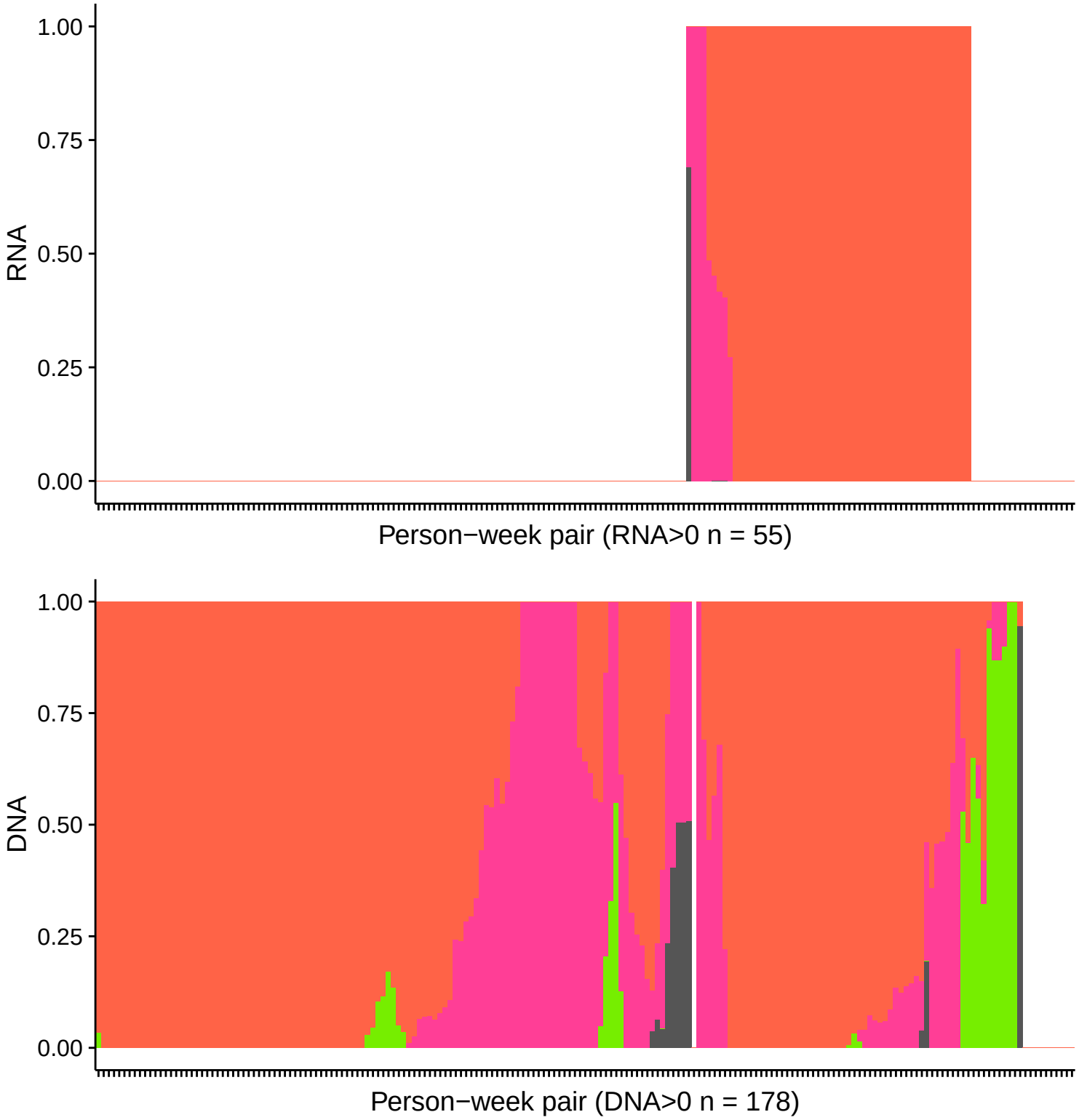

PWY−7111: pyruvate fermentation to isobutanol (engineered)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 185)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides dorei
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Odoribacter splanchnicus
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Streptococcus salivarius
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Methanobrevibacter smithii
other

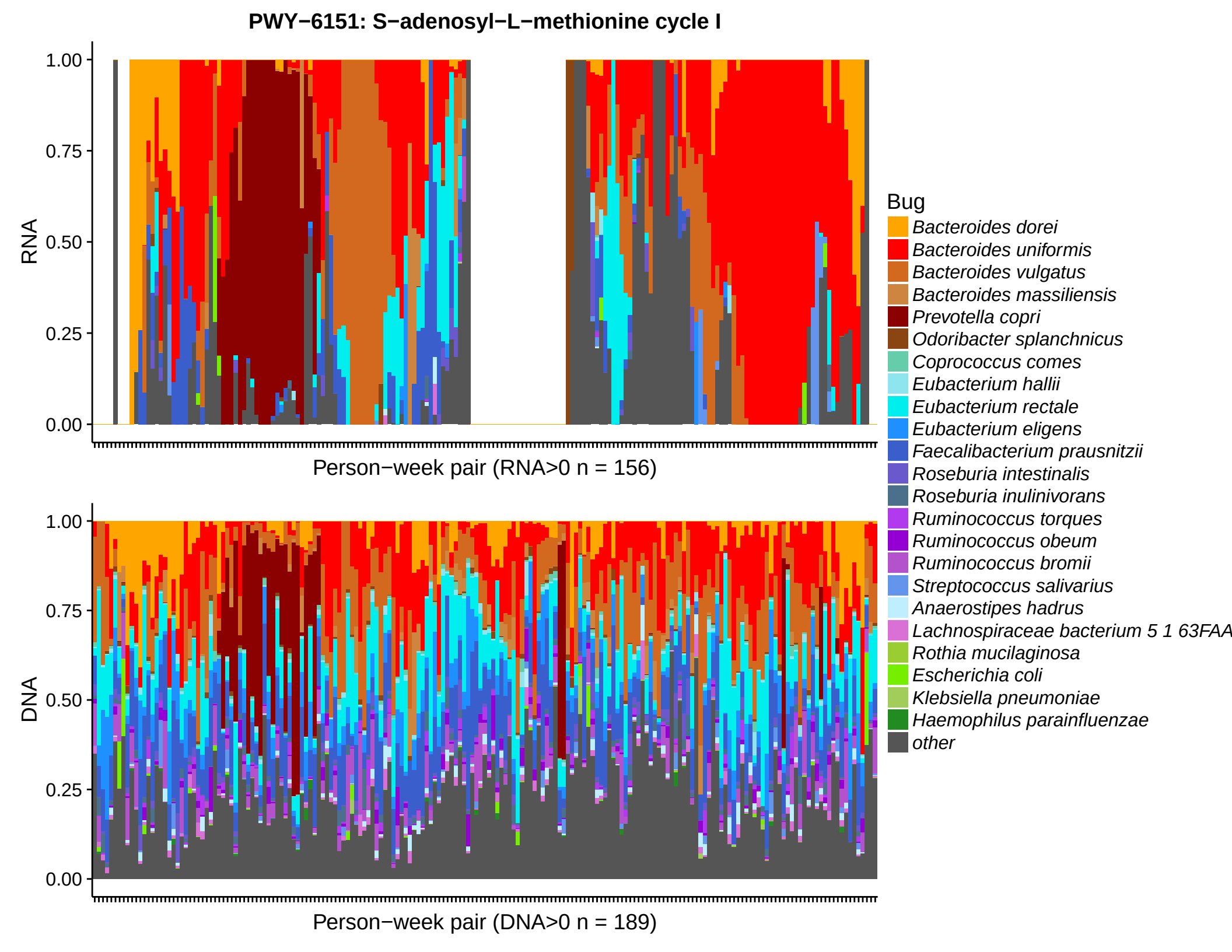

DTDPRHAMSYN−PWY: dTDP−L−rhamnose biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 170)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides xylanisolvens
Odoribacter splanchnicus
Eubacterium rectale
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus torques
Ruminococcus obeum
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Methanobrevibacter smithii
other

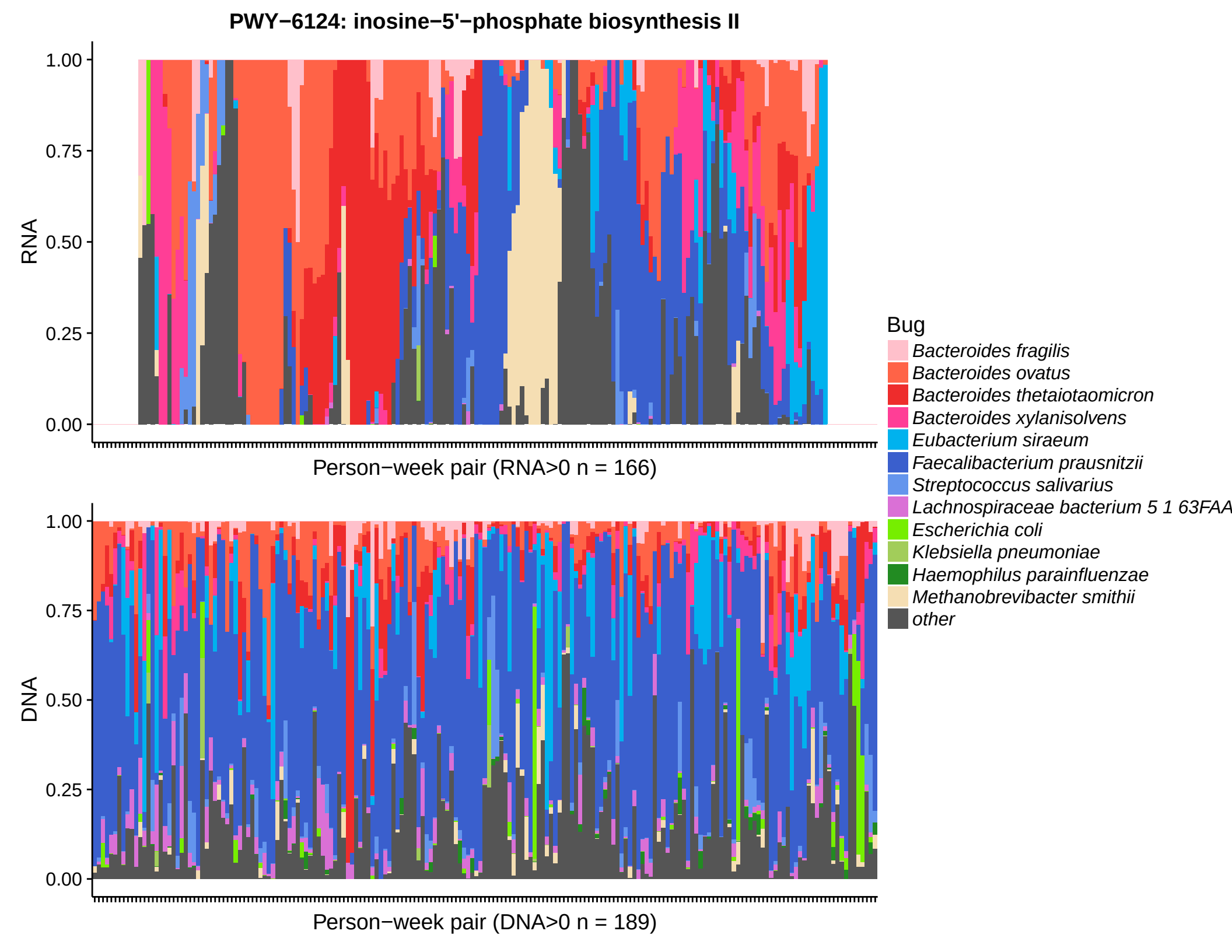

PWY−5097: L−lysine biosynthesis VI
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 157)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Prevotella copri
Odoribacter splanchnicus
Eubacterium rectale
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Ruminococcus torques
Ruminococcus obeum
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

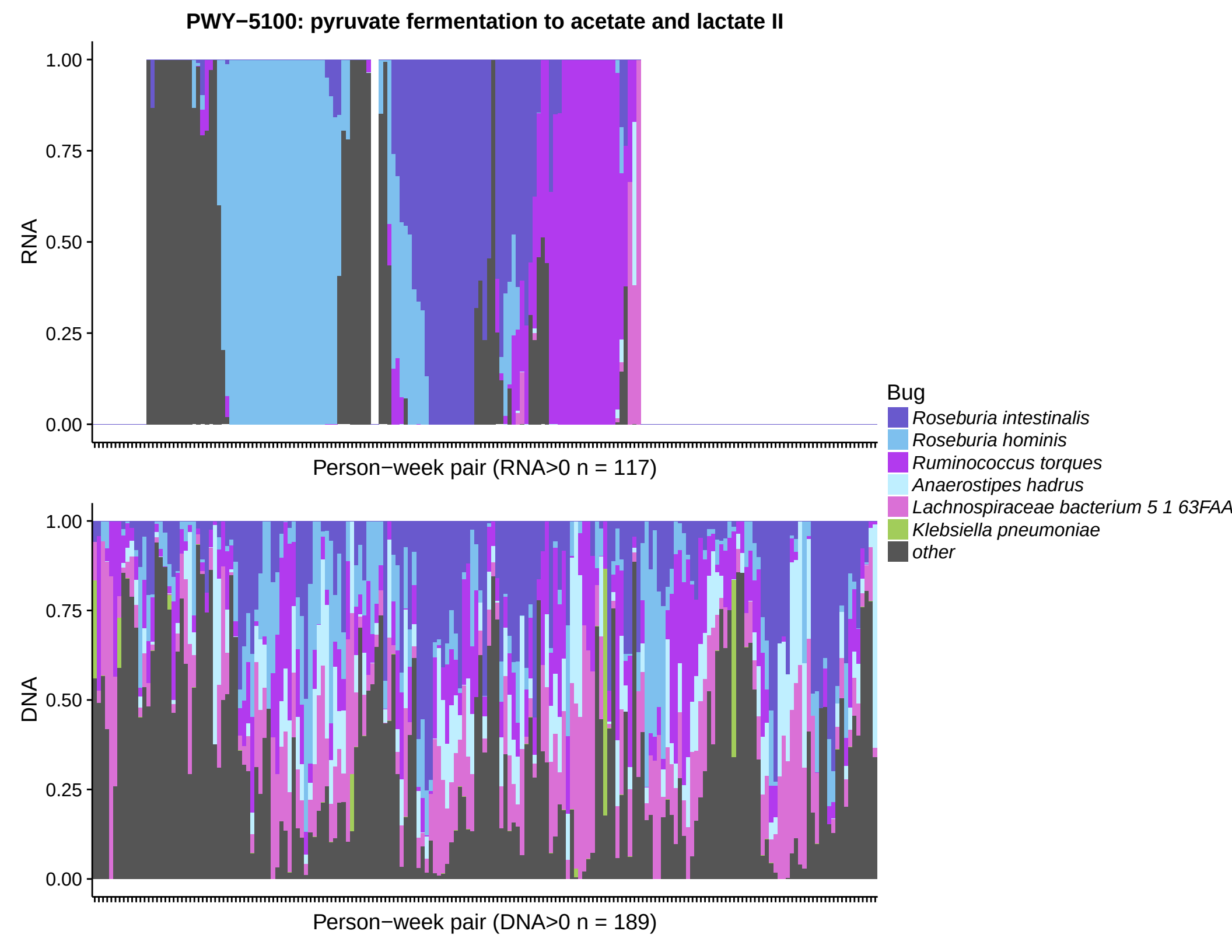

PWY−5104: L−isoleucine biosynthesis IV
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 63)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 186)
Bug
Roseburia intestinalis
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Methanobrevibacter smithii
other

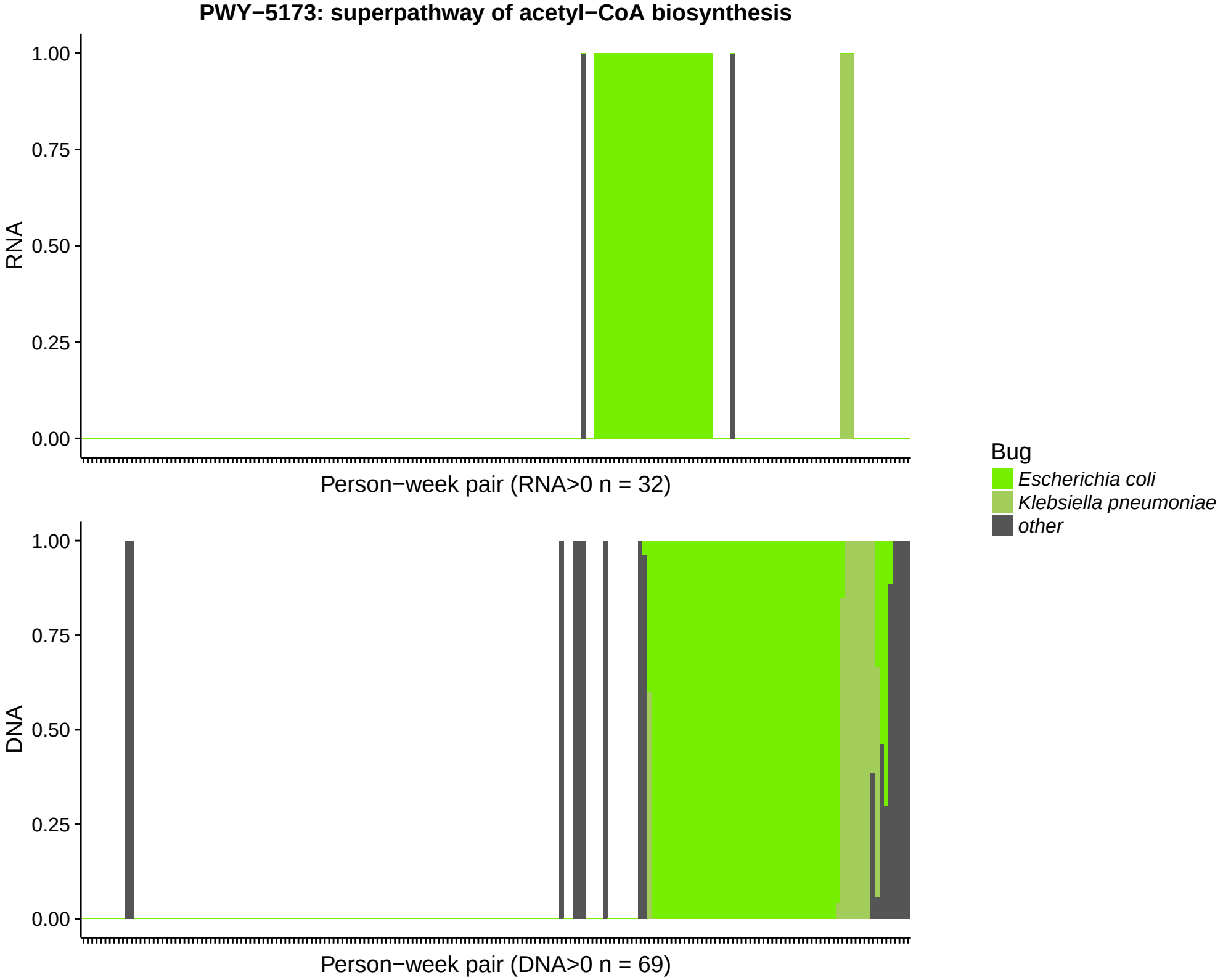
PWY−7323: superpathway of GDP−mannose−derived O−antigen building blocks biosynthesis

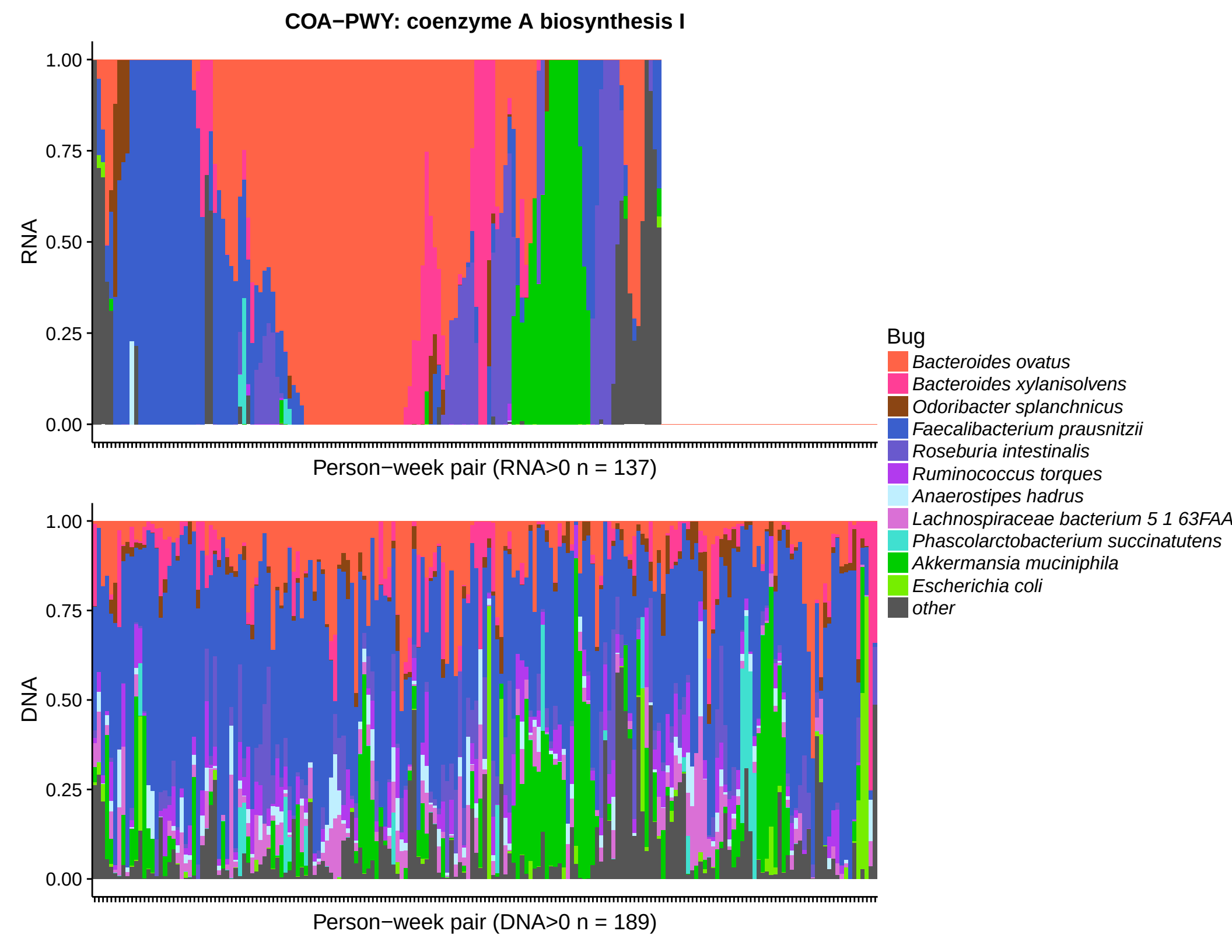


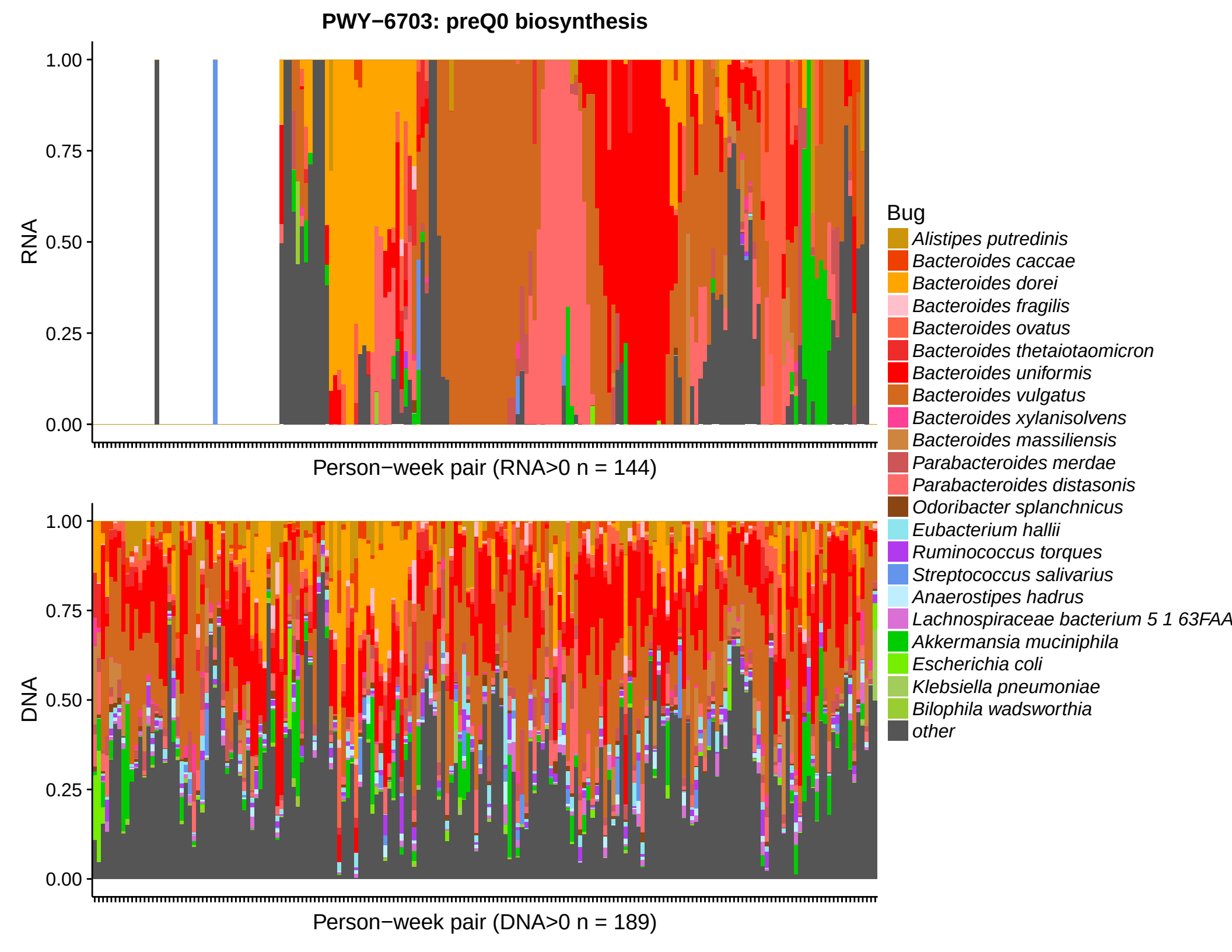

PWY−6151: S−adenosyl−L−methionine cycle I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 156)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides dorei
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides massiliensis
Prevotella copri
Odoribacter splanchnicus
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Rothia mucilaginosa
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

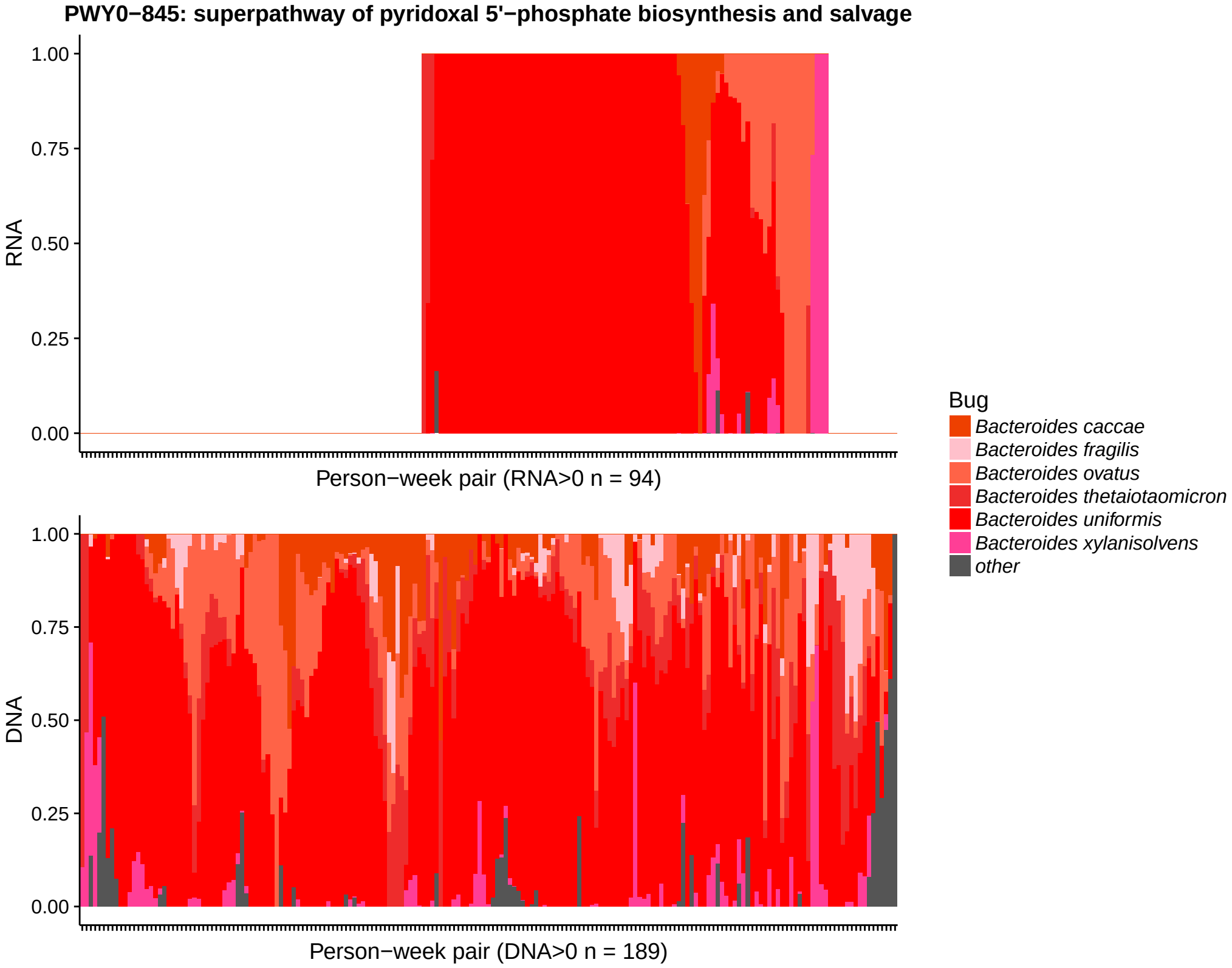

PWY−6124: inosine−5'−phosphate biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 166)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Eubacterium siraeum
Faecalibacterium prausnitzii
Streptococcus salivarius
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Methanobrevibacter smithii
other

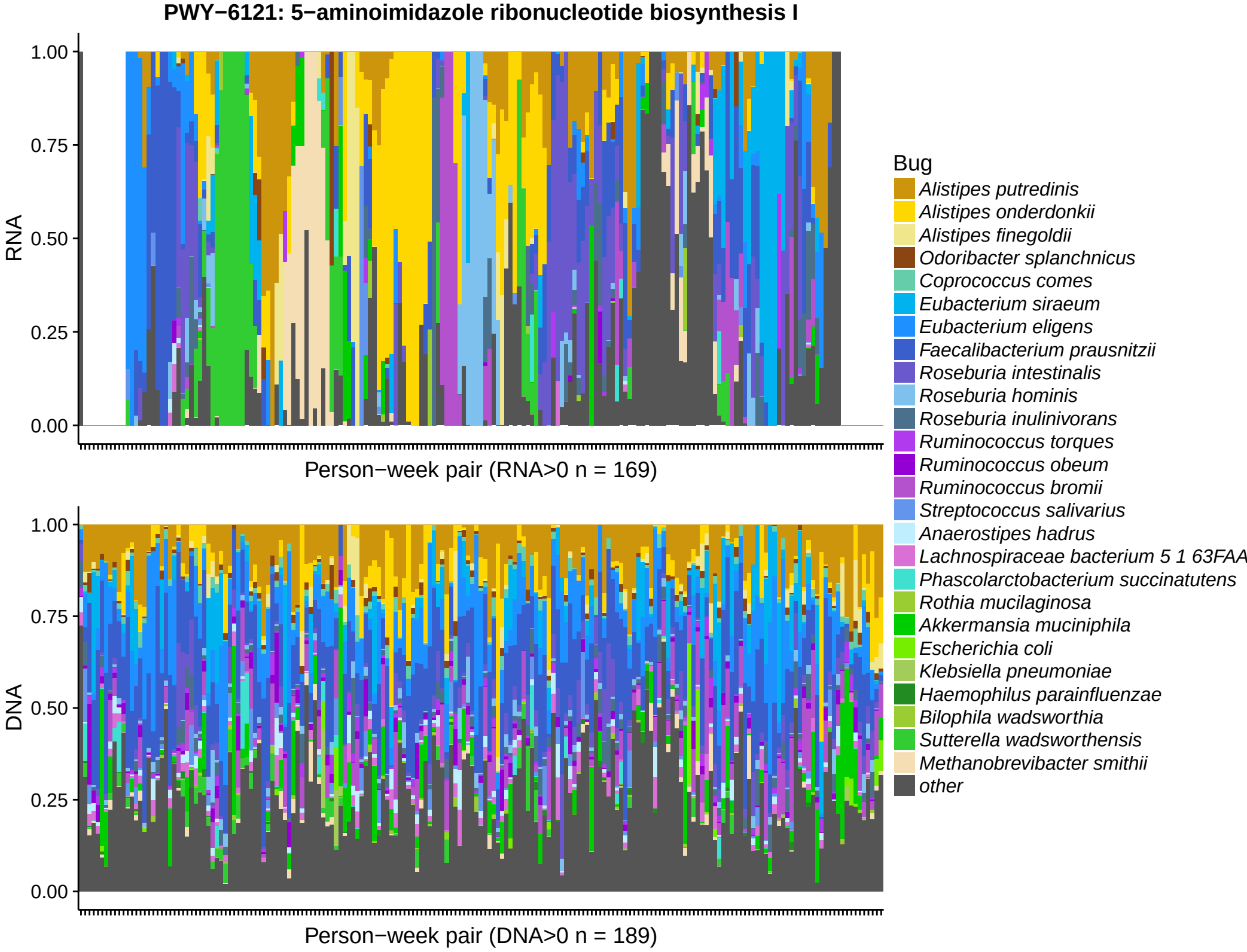

PWY−5100: pyruvate fermentation to acetate and lactate II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 117)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Roseburia intestinalis
Roseburia hominis
Ruminococcus torques
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Klebsiella pneumoniae
other

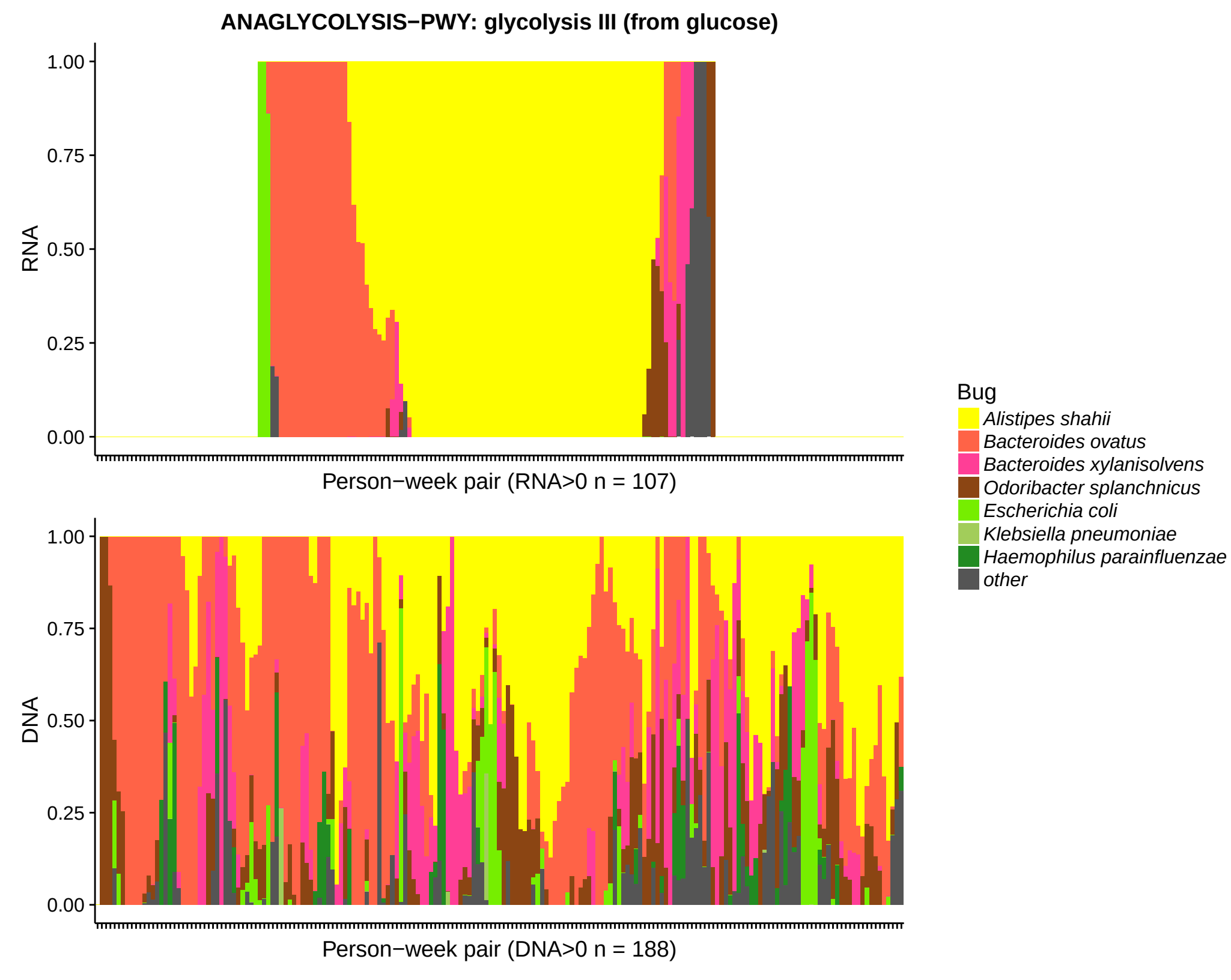

PWY−5173: superpathway of acetyl−CoA biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 32)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 69)
Bug
Escherichia coli
Klebsiella pneumoniae
other

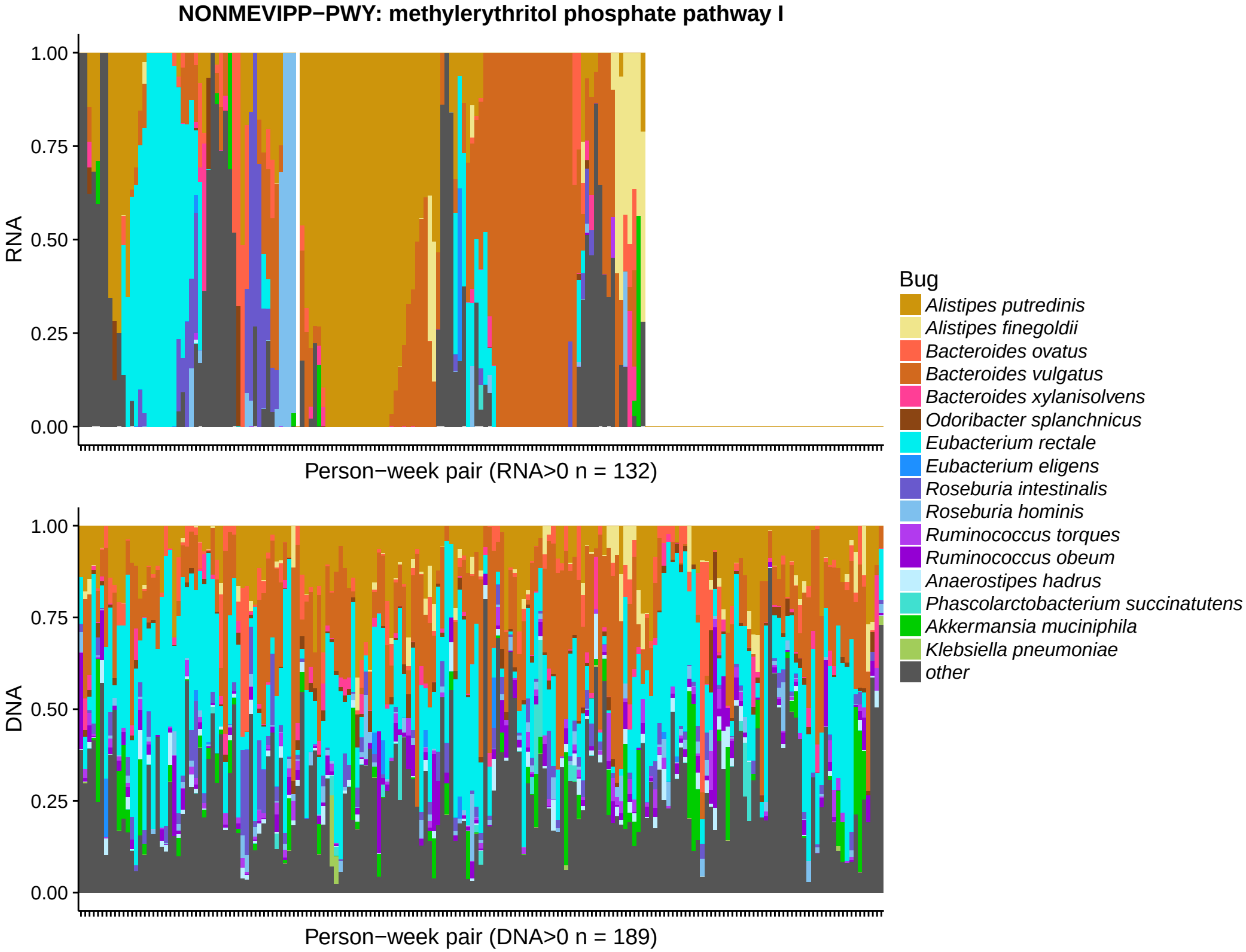

COA−PWY: coenzyme A biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 137)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides ovatus
Bacteroides xylanisolvens
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus torques
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
other

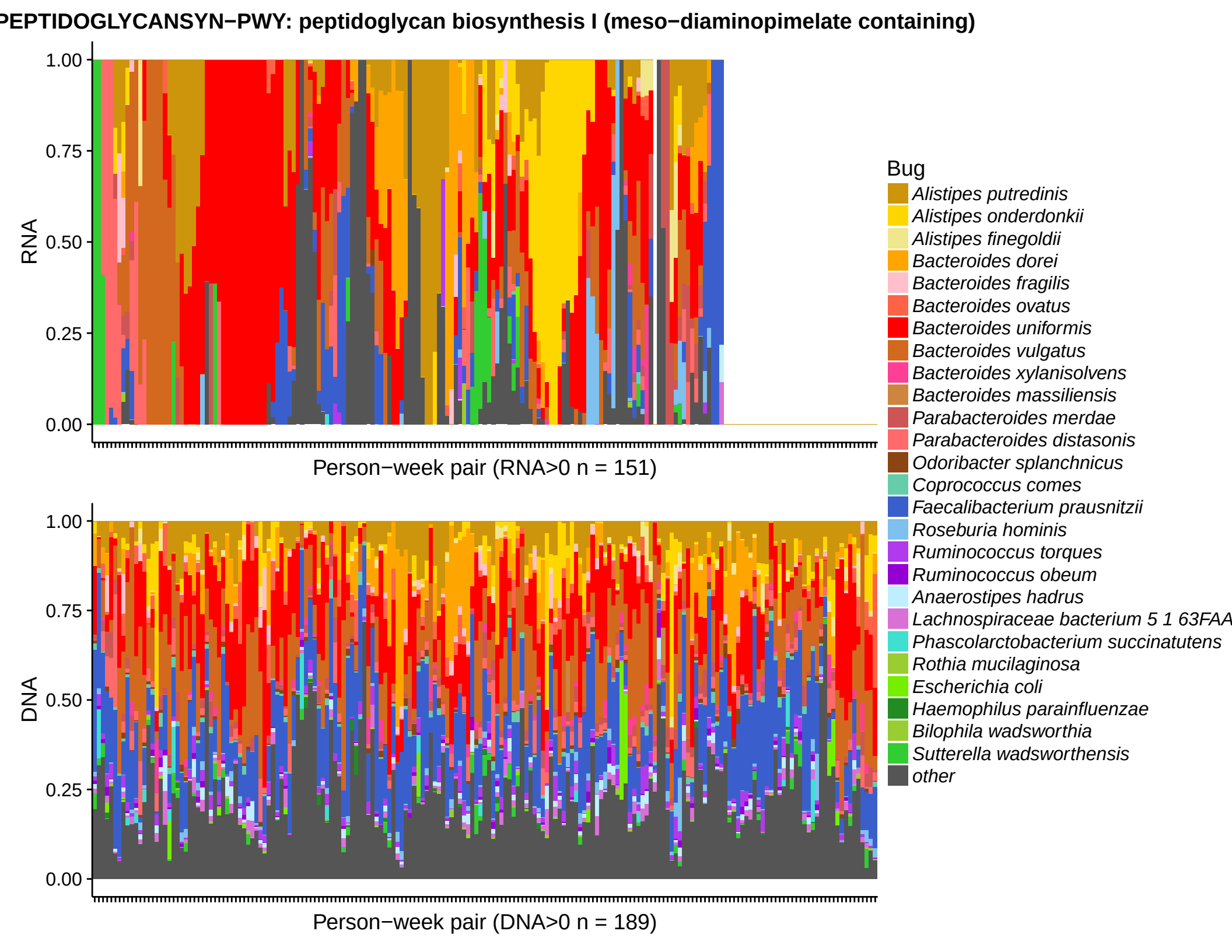

PWY−6703: preQ0 biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 144)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Odoribacter splanchnicus
Eubacterium hallii
Ruminococcus torques
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Bilophila wadsworthia
other


PWY0−845: superpathway of pyridoxal 5'−phosphate biosynthesis and salvage
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 94)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides xylanisolvens
other

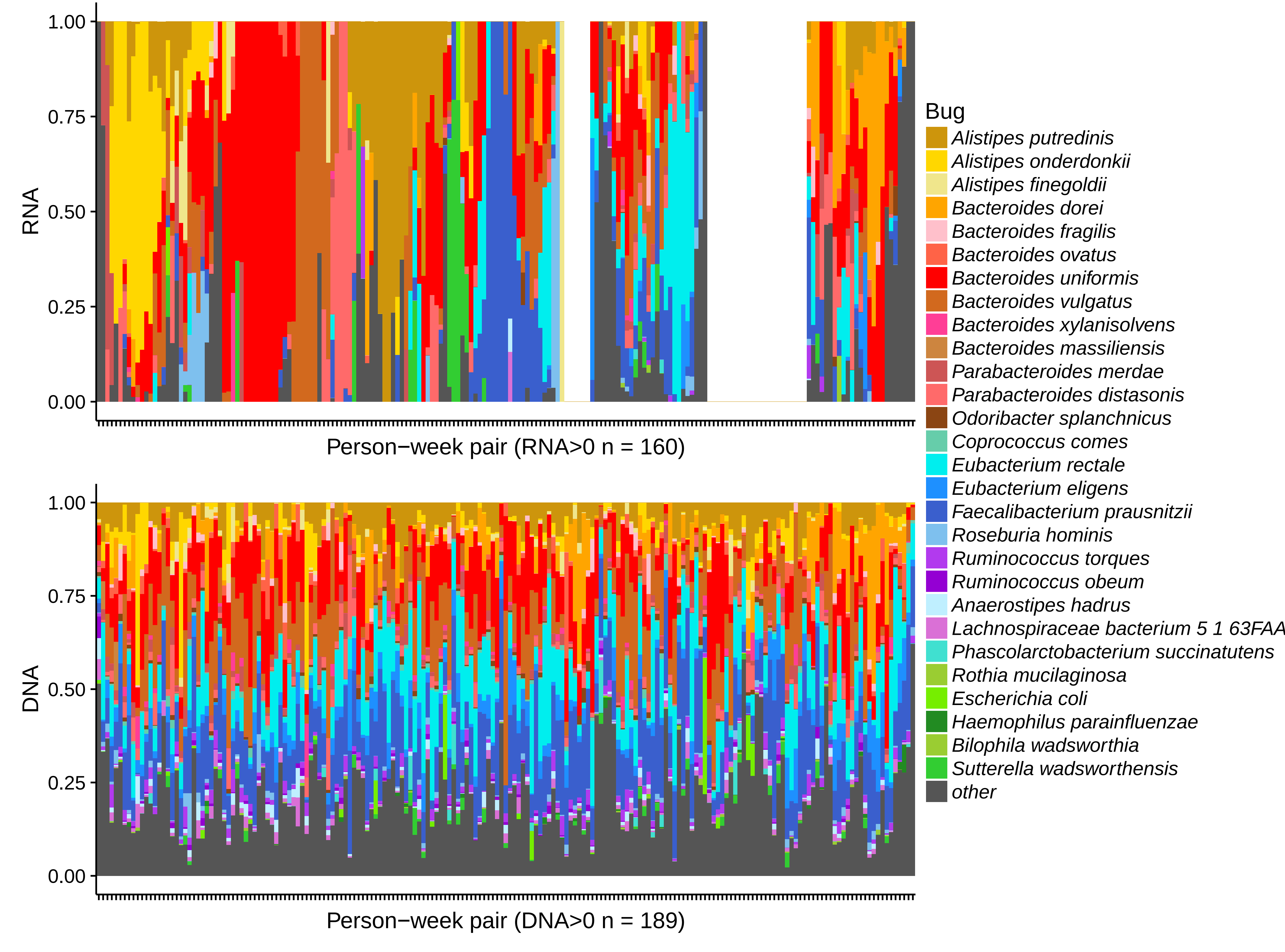

PWY−6121: 5−aminoimidazole ribonucleotide biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 169)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes finegoldii
Odoribacter splanchnicus
Coprococcus comes
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Rothia mucilaginosa
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

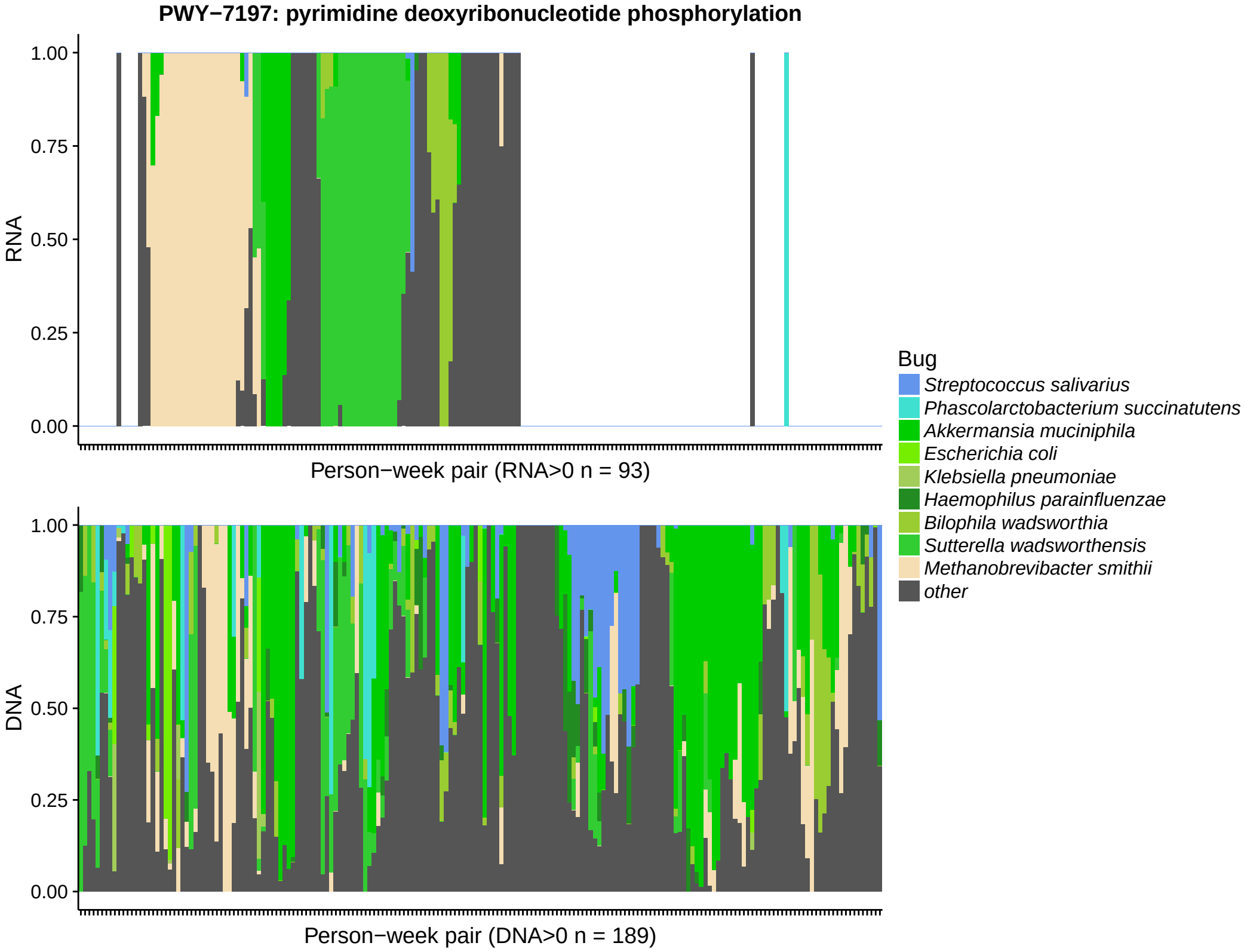

ANAGLYCOLYSIS−PWY: glycolysis III (from glucose)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 107)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 188)
Bug
Alistipes shahii
Bacteroides ovatus
Bacteroides xylanisolvens
Odoribacter splanchnicus
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

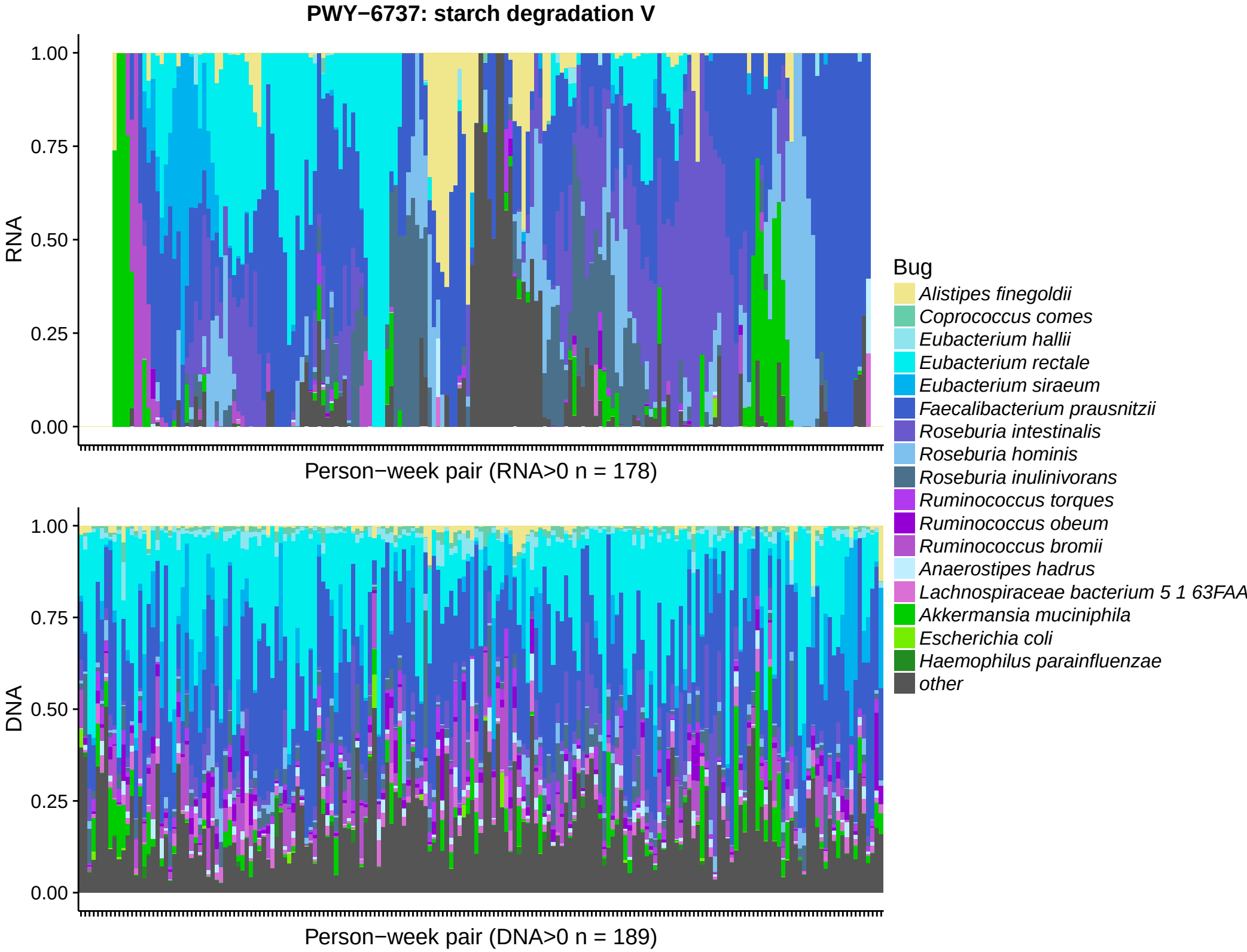

NONMEVIPP−PWY: methylerythritol phosphate pathway I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 132)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes finegoldii
Bacteroides ovatus
Bacteroides vulgatus
Bacteroides xylanisolvens
Odoribacter splanchnicus
Eubacterium rectale
Eubacterium eligens
Roseburia intestinalis
Roseburia hominis
Ruminococcus torques
Ruminococcus obeum
Anaerostipes hadrus
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Klebsiella pneumoniae
other

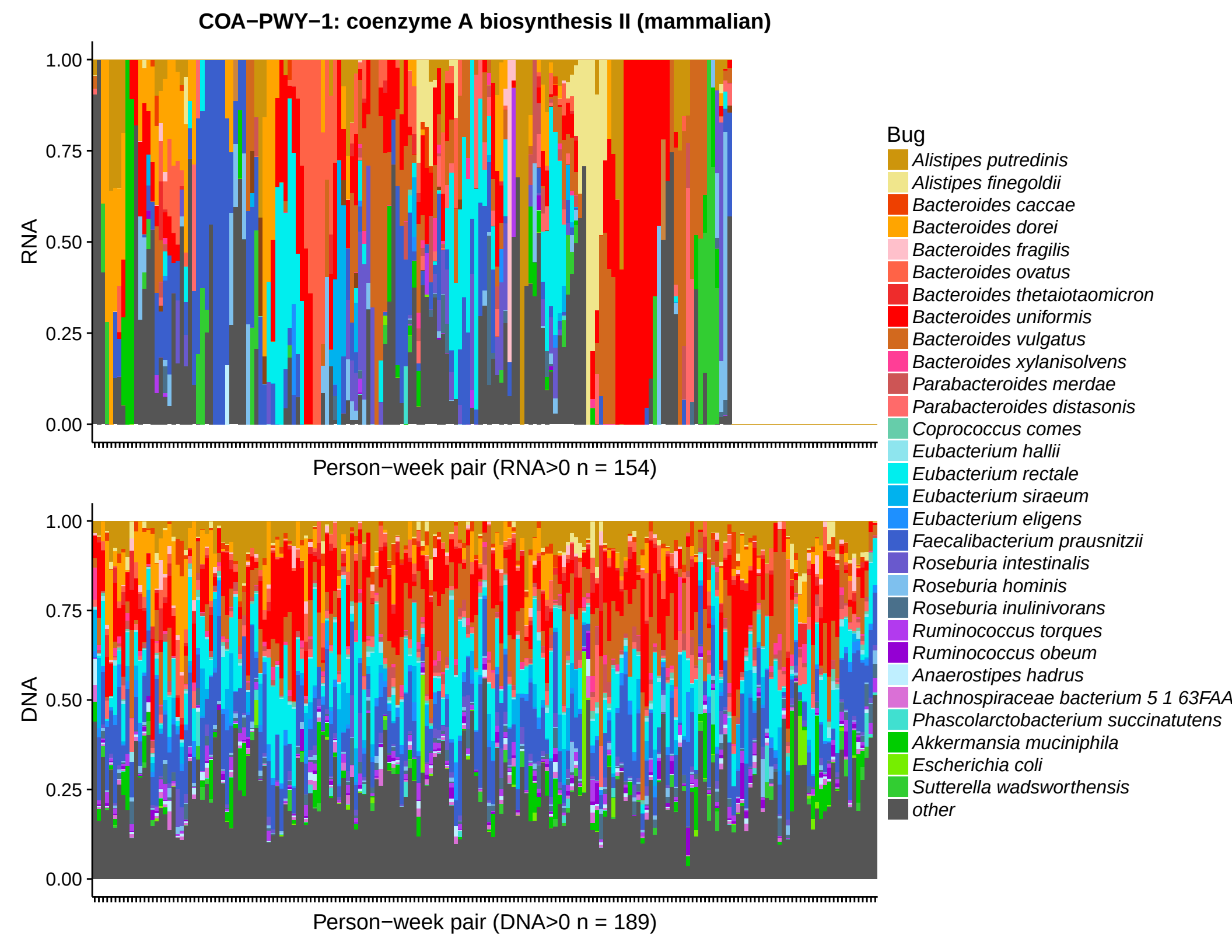

PEPTIDOGLYCANSYN−PWY: peptidoglycan biosynthesis I (meso−diaminopimelate containing)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 151)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes finegoldii
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Bacteroides massiliensis
Parabacteroides merdae
Parabacteroides distasonis
Odoribacter splanchnicus
Coprococcus comes
Faecalibacterium prausnitzii
Roseburia hominis
Ruminococcus torques
Ruminococcus obeum
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Rothia mucilaginosa
Escherichia coli
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
other

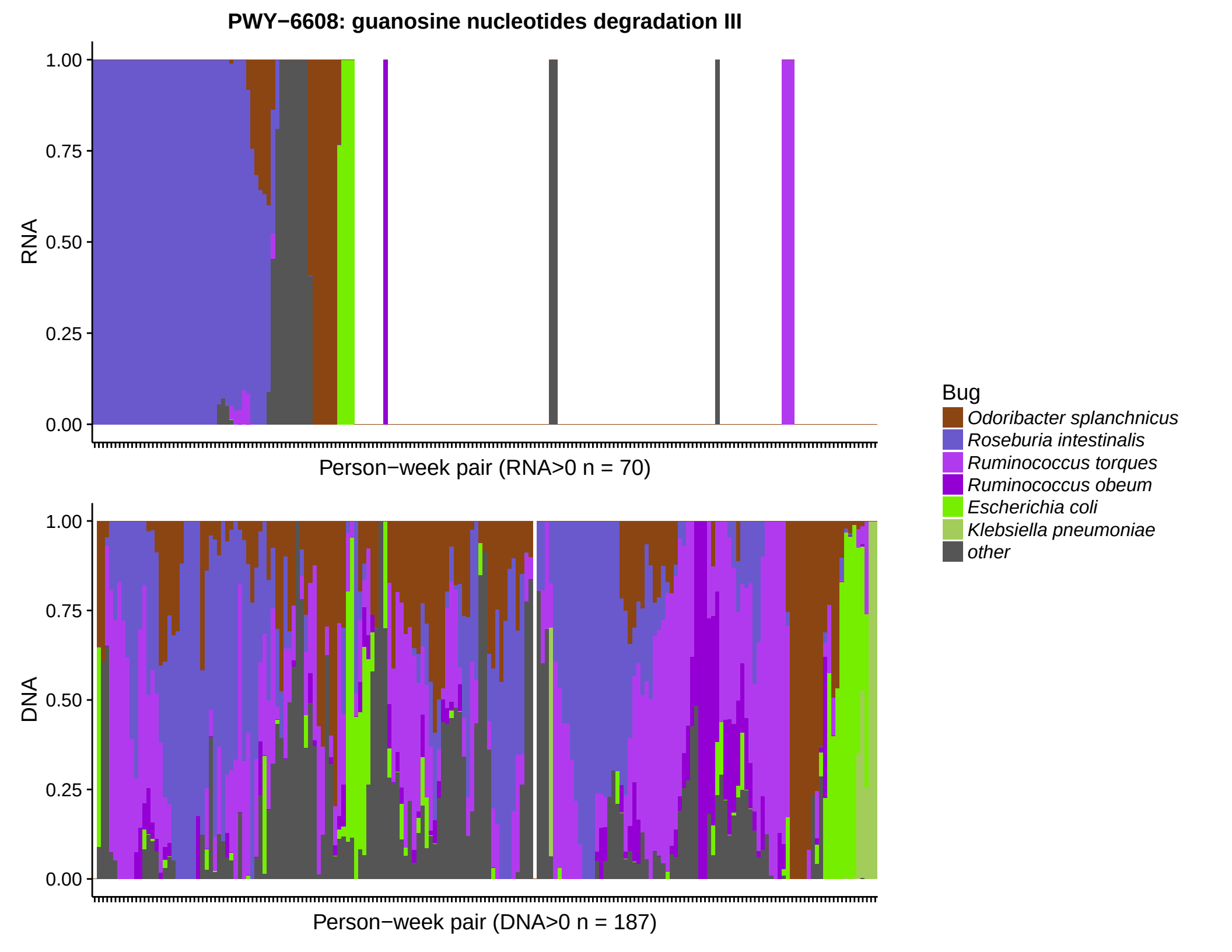
Y−6387: UDP−N−acetylmuramoyl−pentapeptide biosynthesis I (meso−diaminopimelate containing)

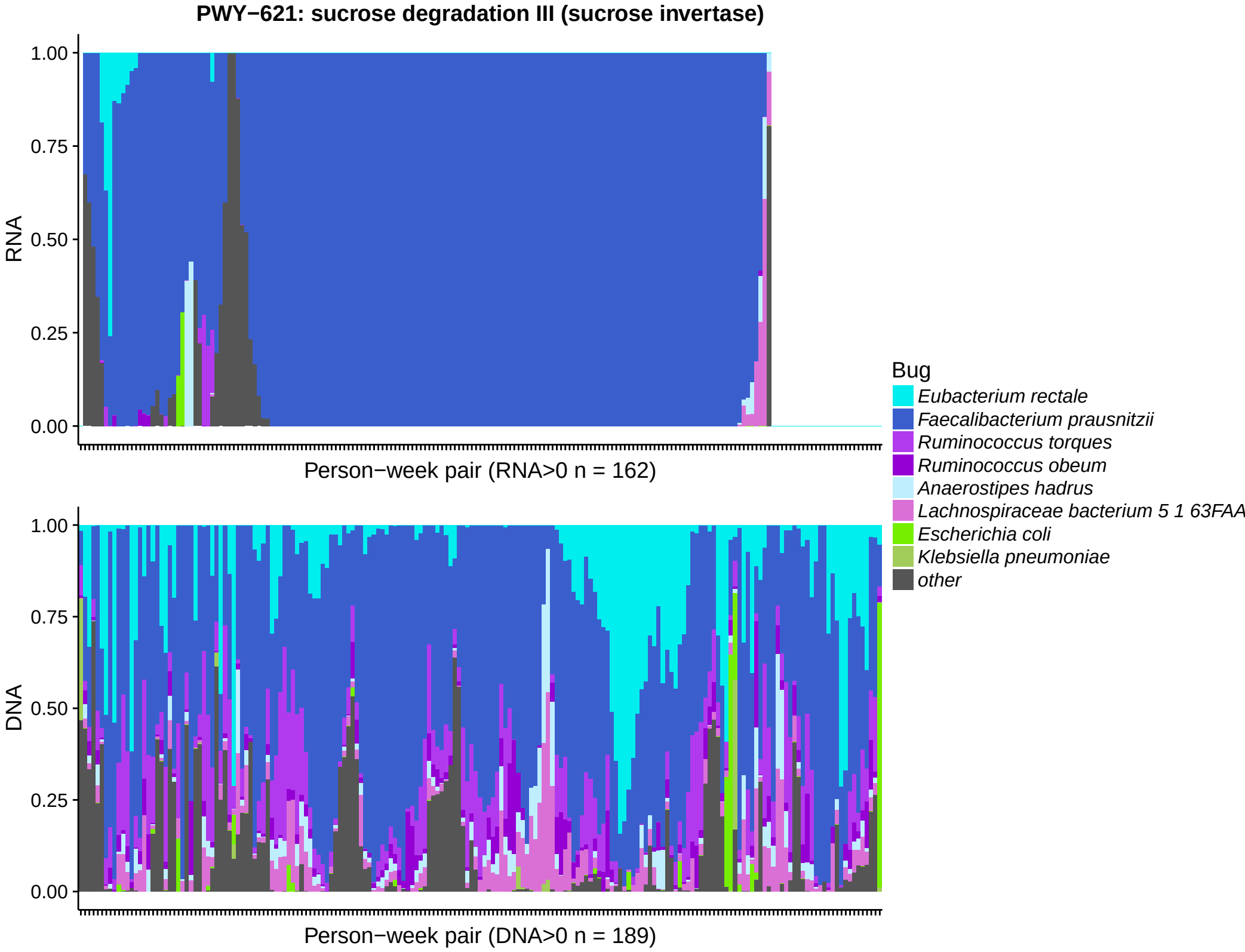


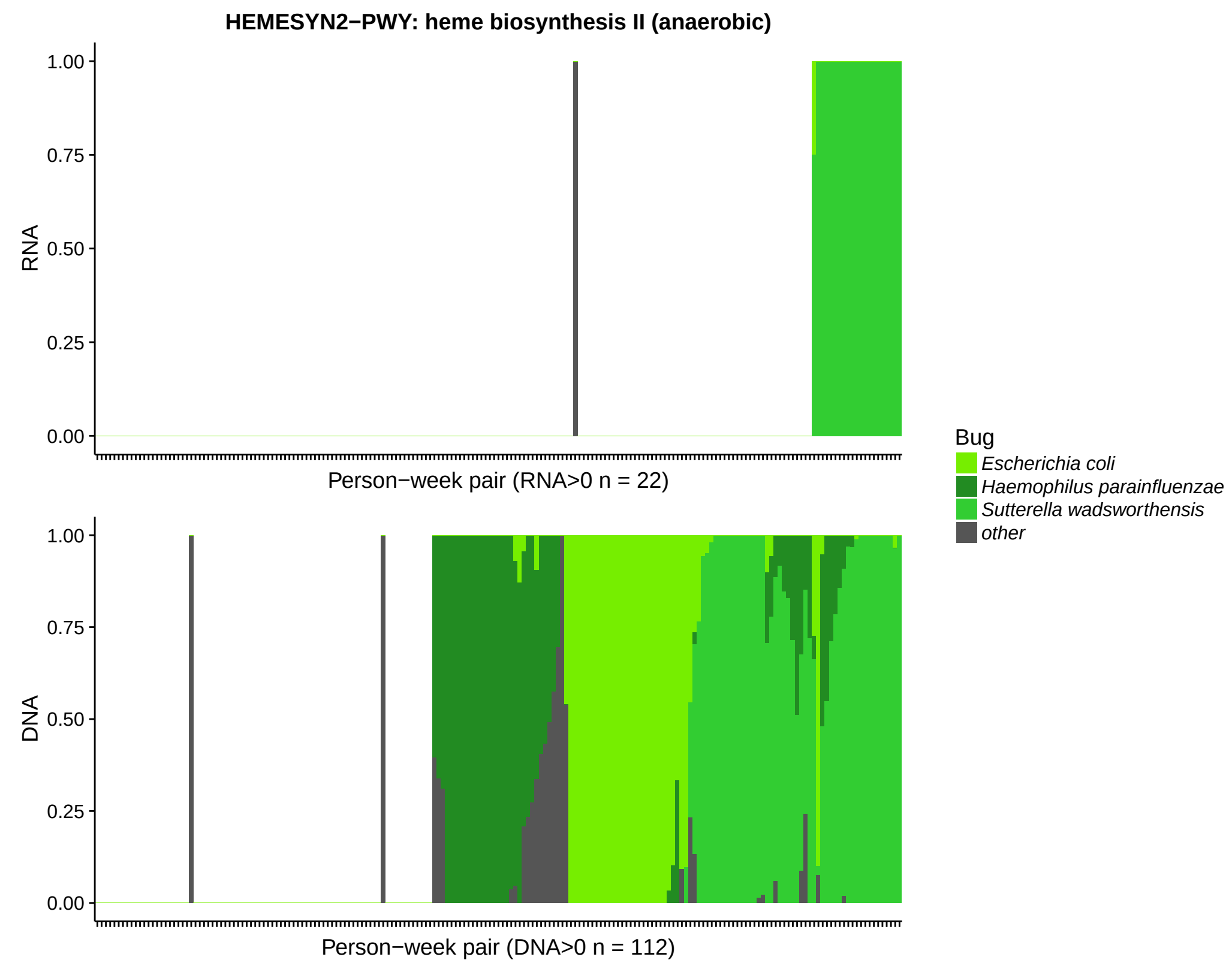

PWY−7197: pyrimidine deoxyribonucleotide phosphorylation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 93)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Streptococcus salivarius
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

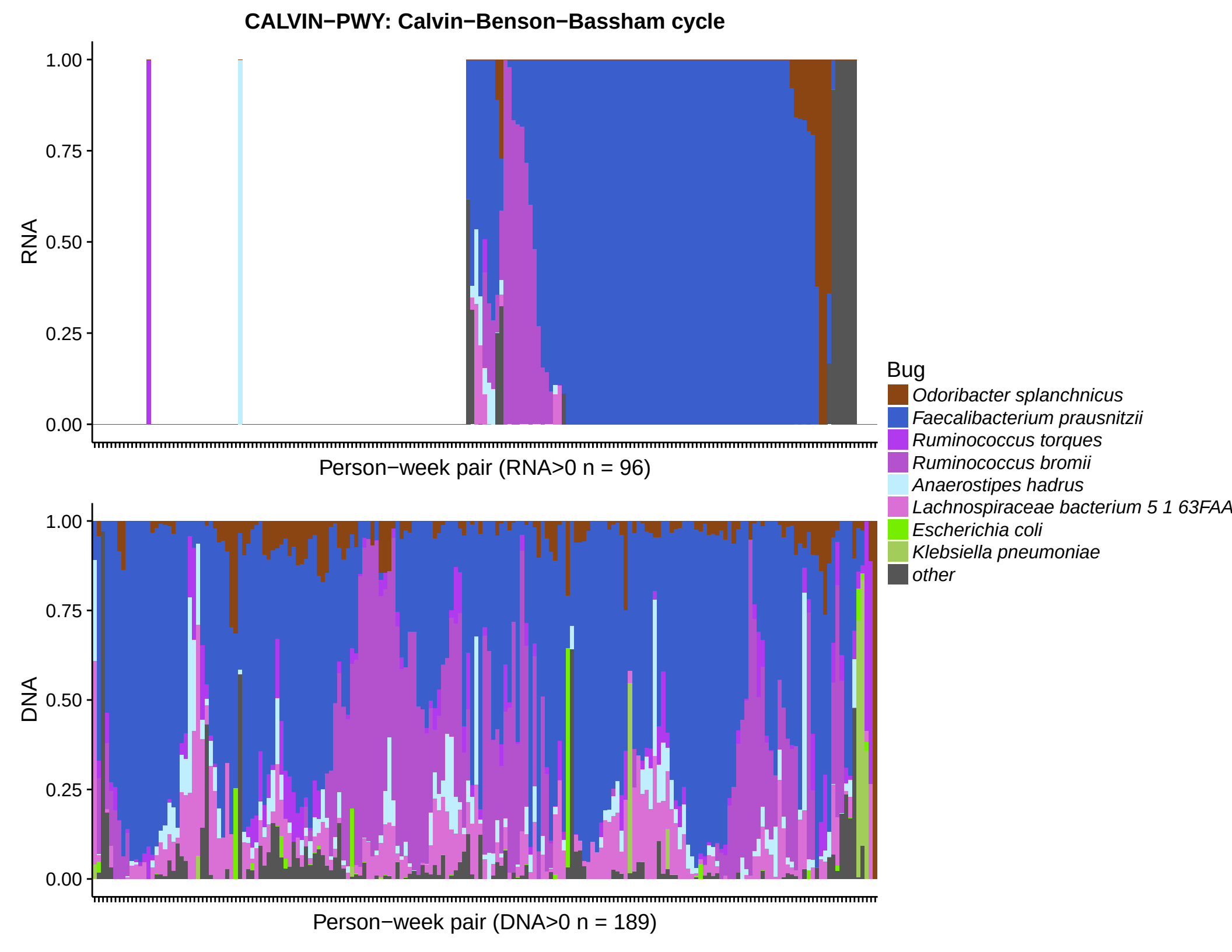

PWY−6737: starch degradation V
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 178)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes finegoldii
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Akkermansia muciniphila
Escherichia coli
Haemophilus parainfluenzae
other

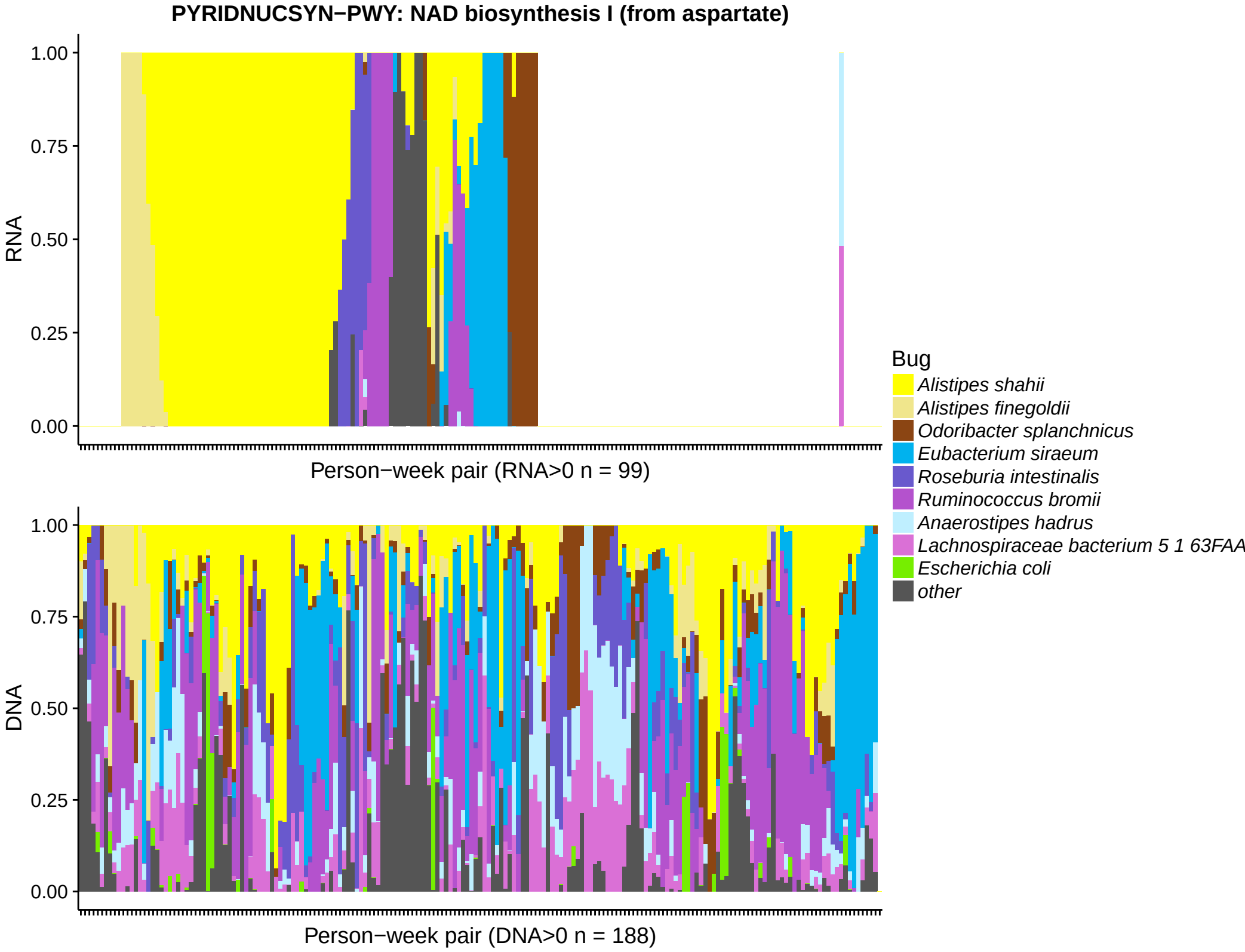

COA−PWY−1: coenzyme A biosynthesis II (mammalian)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 154)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes finegoldii
Bacteroides caccae
Bacteroides dorei
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides uniformis
Bacteroides vulgatus
Bacteroides xylanisolvens
Parabacteroides merdae
Parabacteroides distasonis
Coprococcus comes
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Sutterella wadsworthensis
other

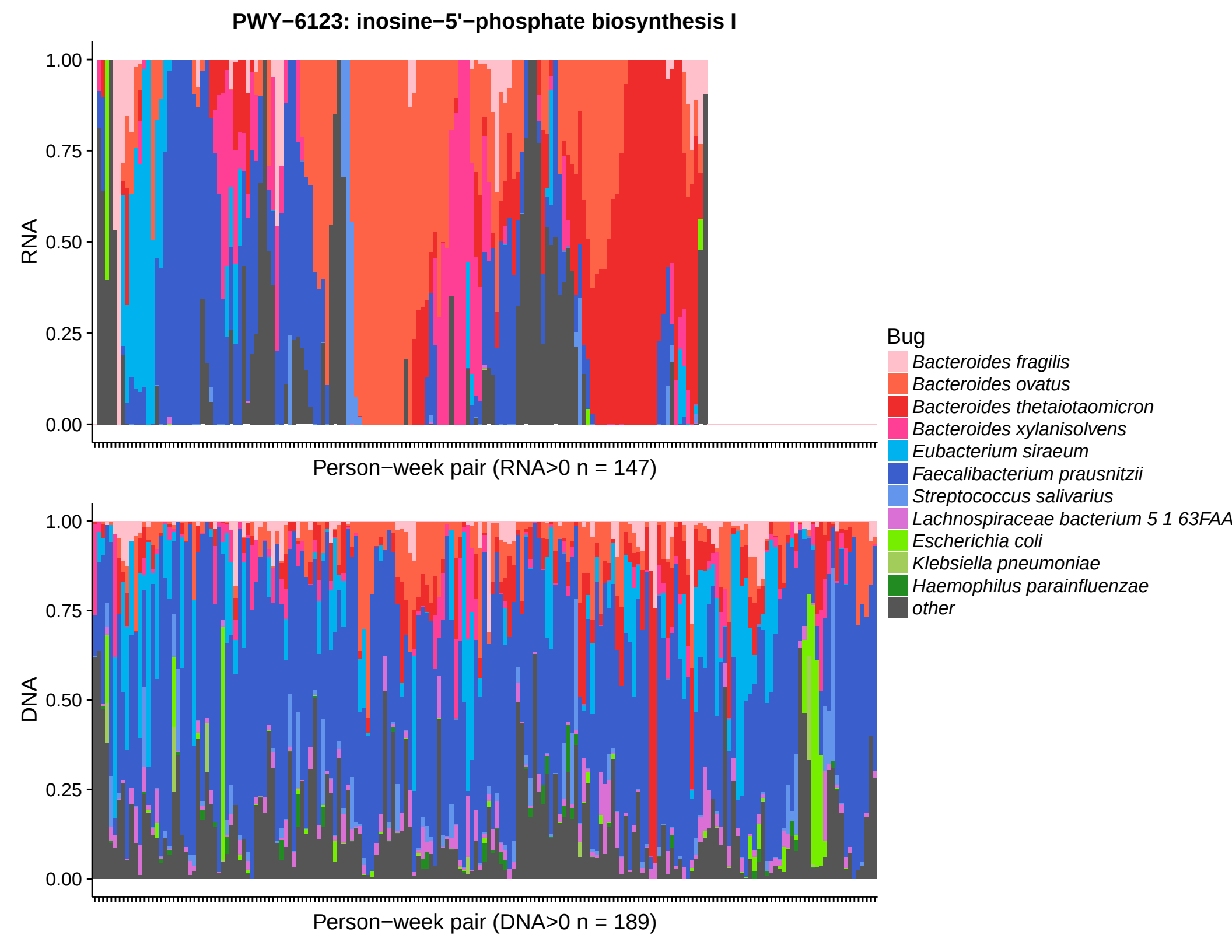

PWY−6608: guanosine nucleotides degradation III
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 70)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 187)
Bug
Odoribacter splanchnicus
Roseburia intestinalis
Ruminococcus torques
Ruminococcus obeum
Escherichia coli
Klebsiella pneumoniae
other

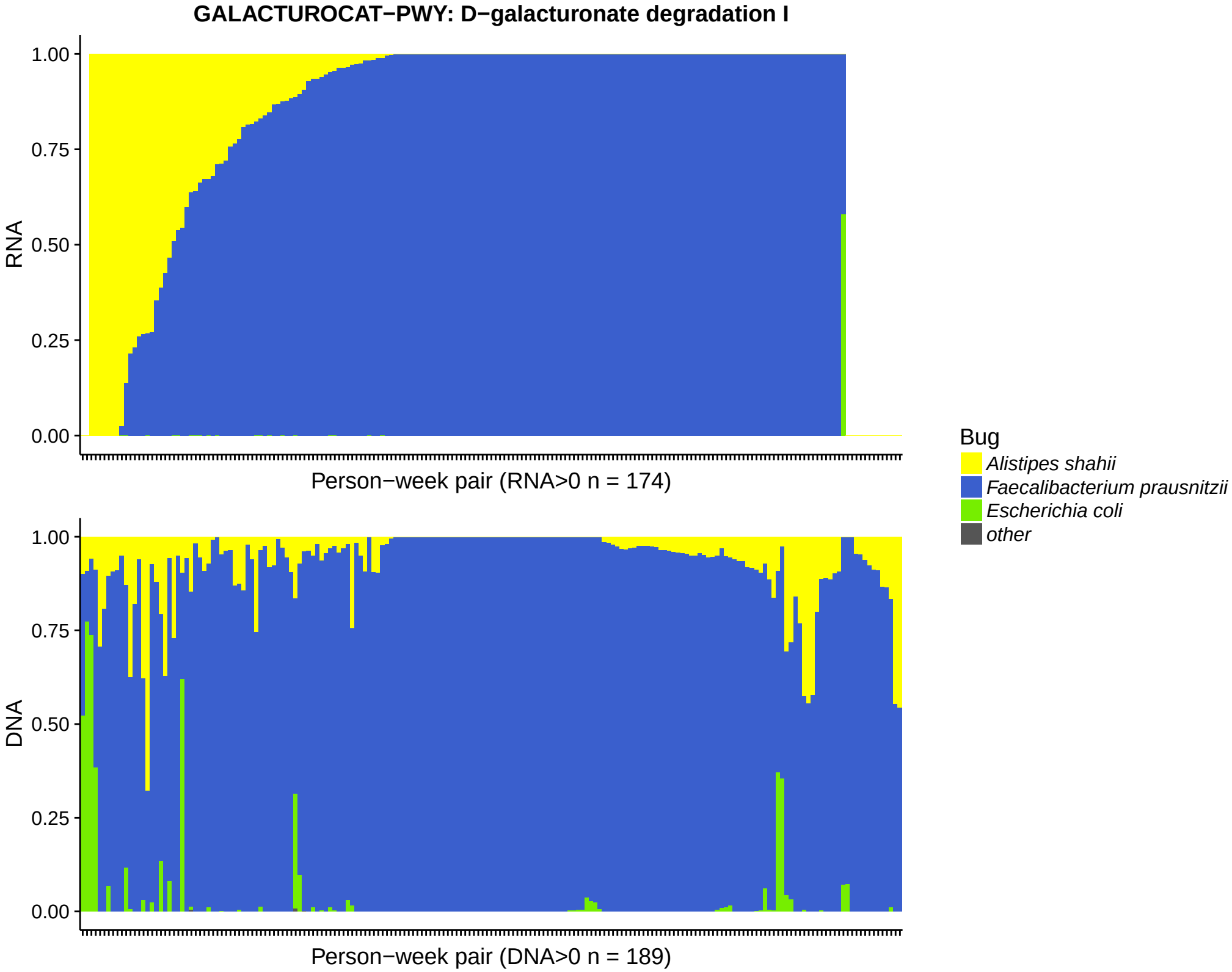

PWY−621: sucrose degradation III (sucrose invertase)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 162)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium rectale
Faecalibacterium prausnitzii
Ruminococcus torques
Ruminococcus obeum
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
other

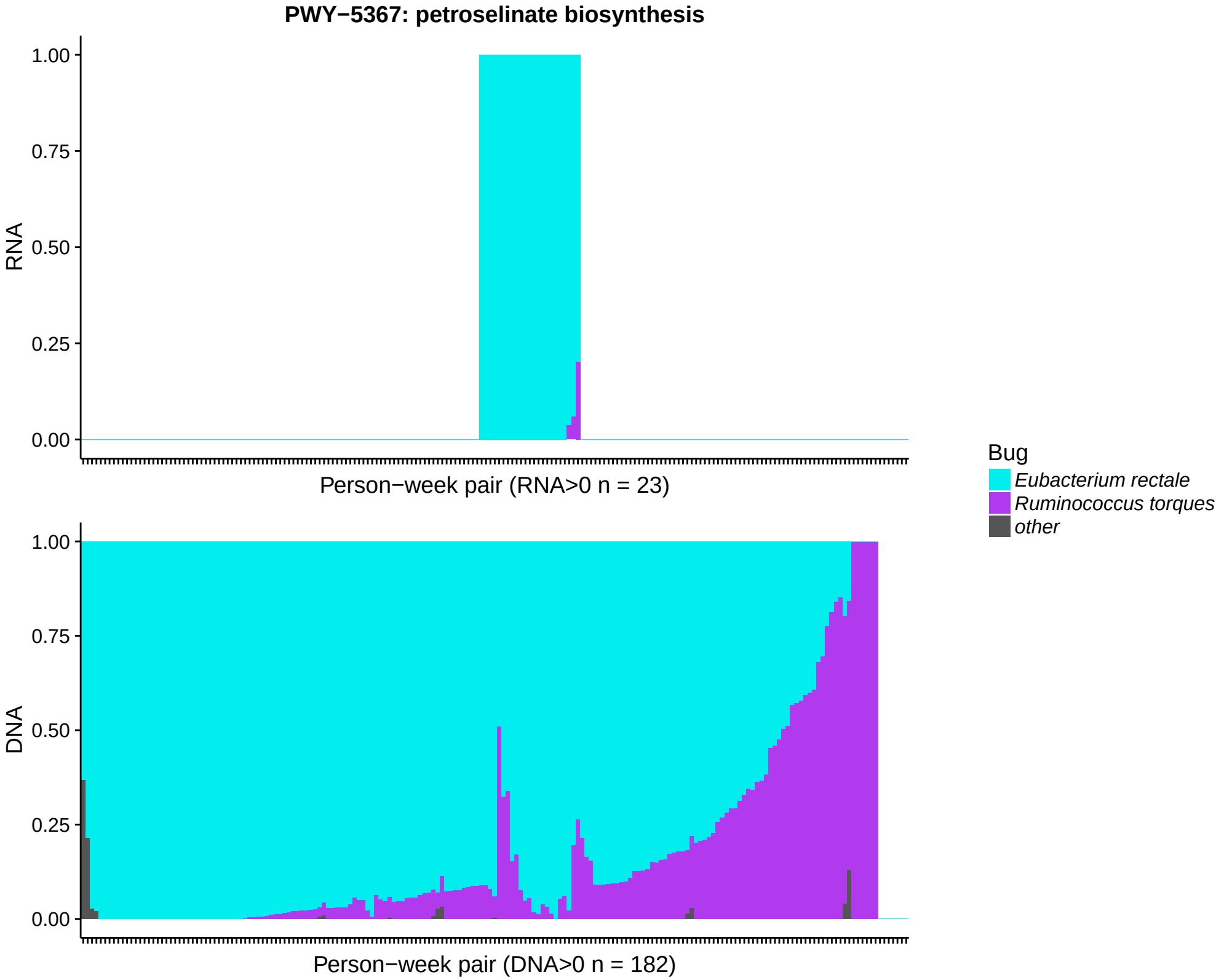

HEMESYN2−PWY: heme biosynthesis II (anaerobic)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 22)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 112)
Bug
Escherichia coli
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

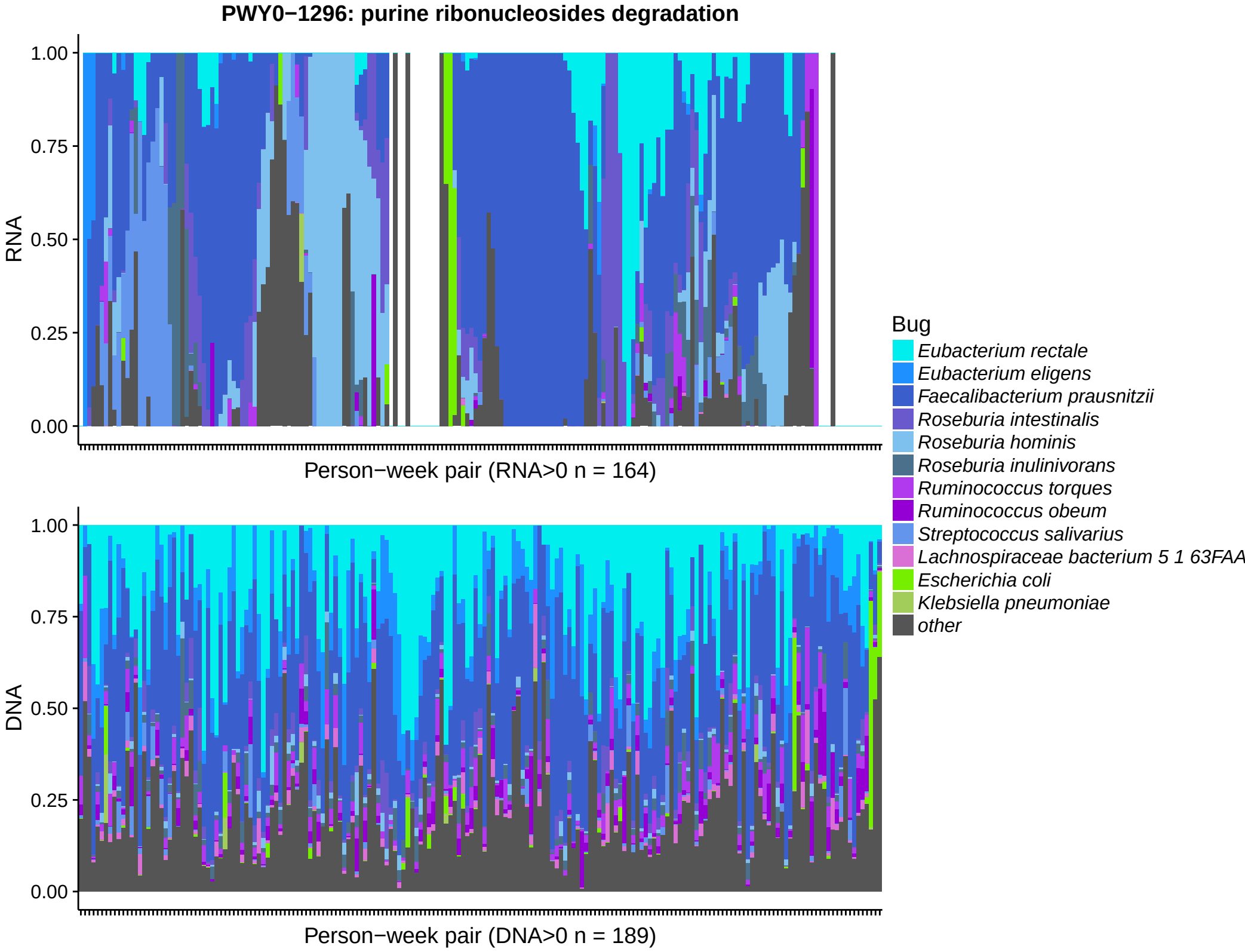

CALVIN−PWY: Calvin−Benson−Bassham cycle
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 96)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Ruminococcus torques
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
other

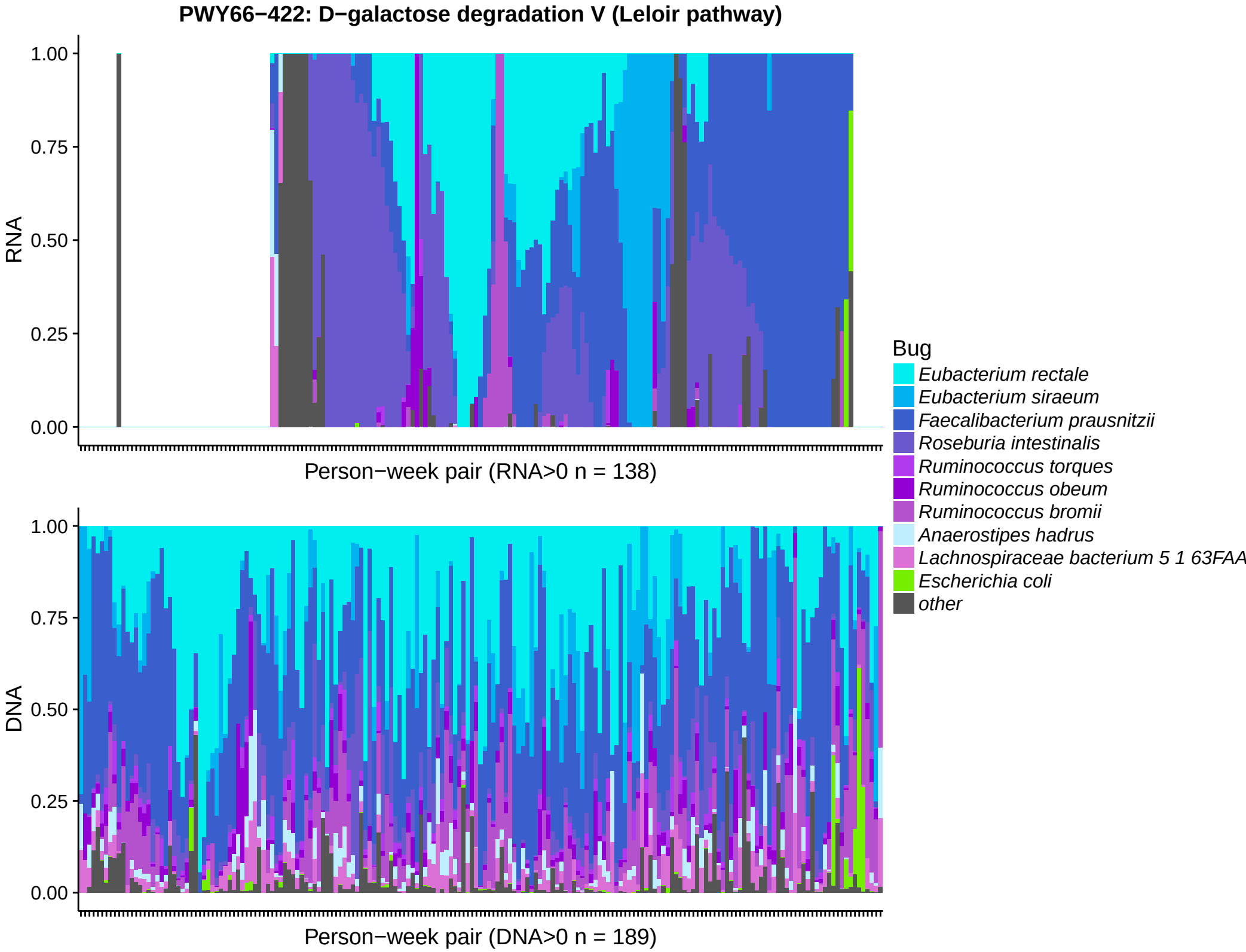

PYRIDNUCSYN−PWY: NAD biosynthesis I (from aspartate)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 99)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 188)
Bug
Alistipes shahii
Alistipes finegoldii
Odoribacter splanchnicus
Eubacterium siraeum
Roseburia intestinalis
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
other

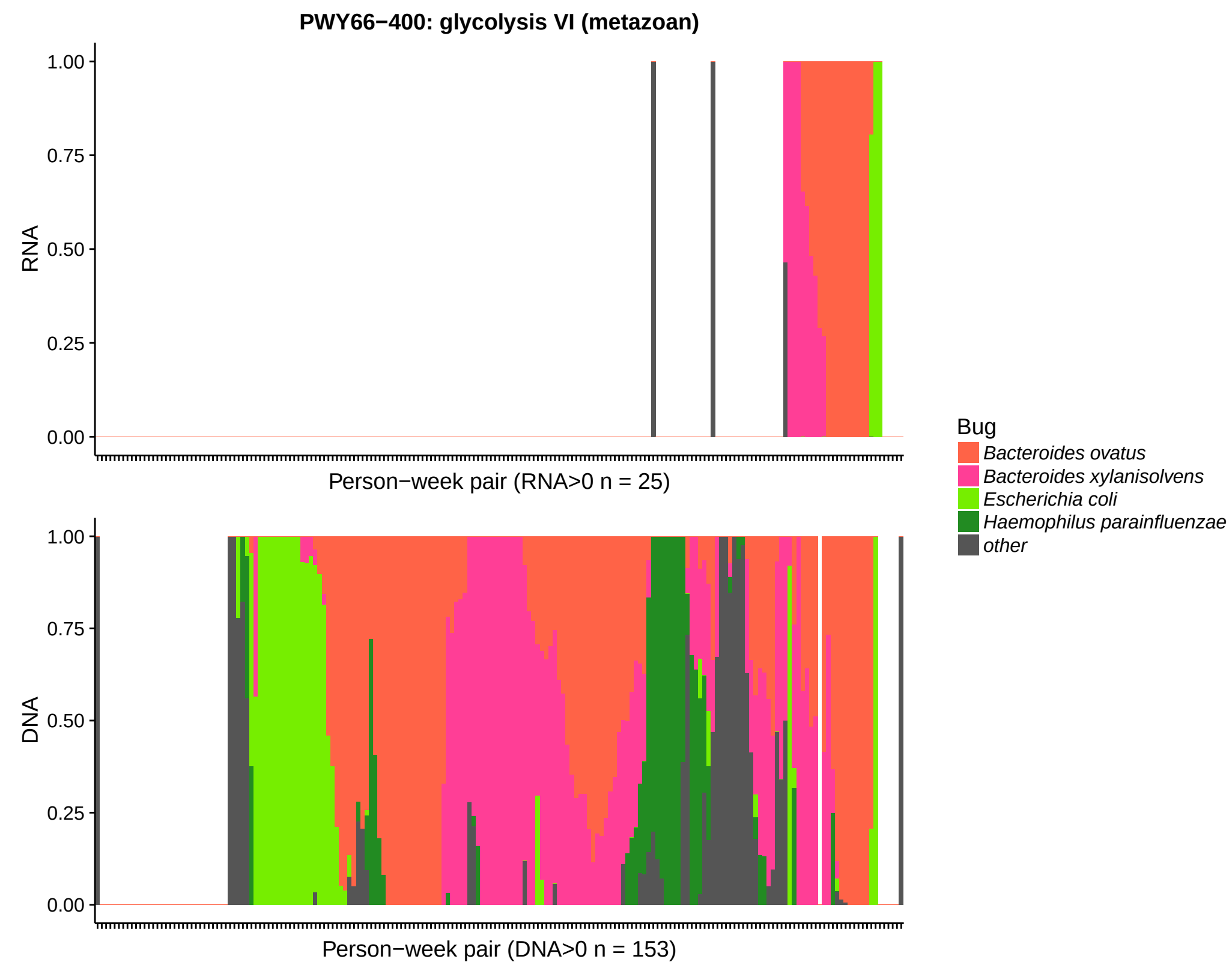

PWY−6123: inosine−5'−phosphate biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 147)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Eubacterium siraeum
Faecalibacterium prausnitzii
Streptococcus salivarius
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

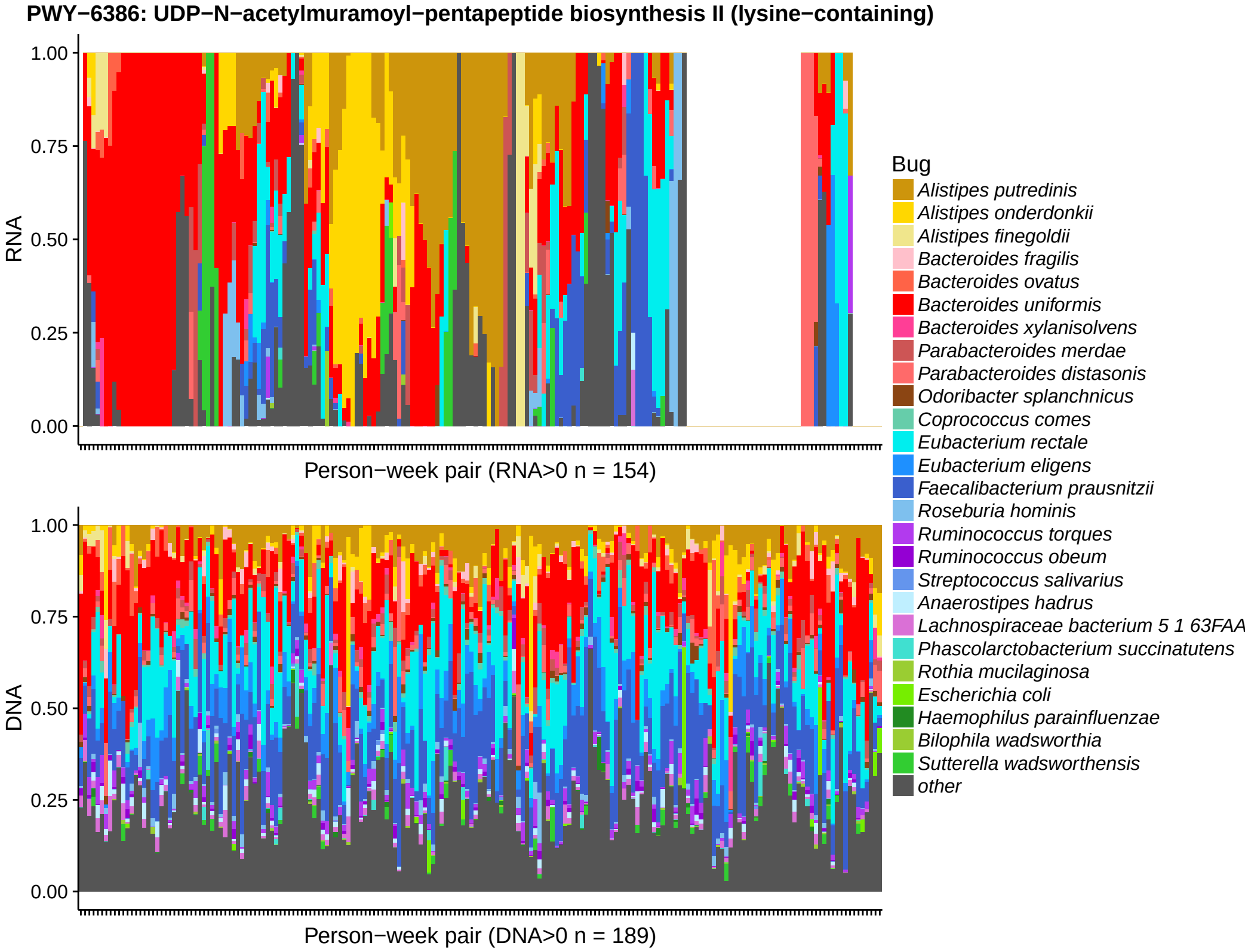

GALACTUROCAT−PWY: D−galacturonate degradation I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 174)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Faecalibacterium prausnitzii
Escherichia coli
other

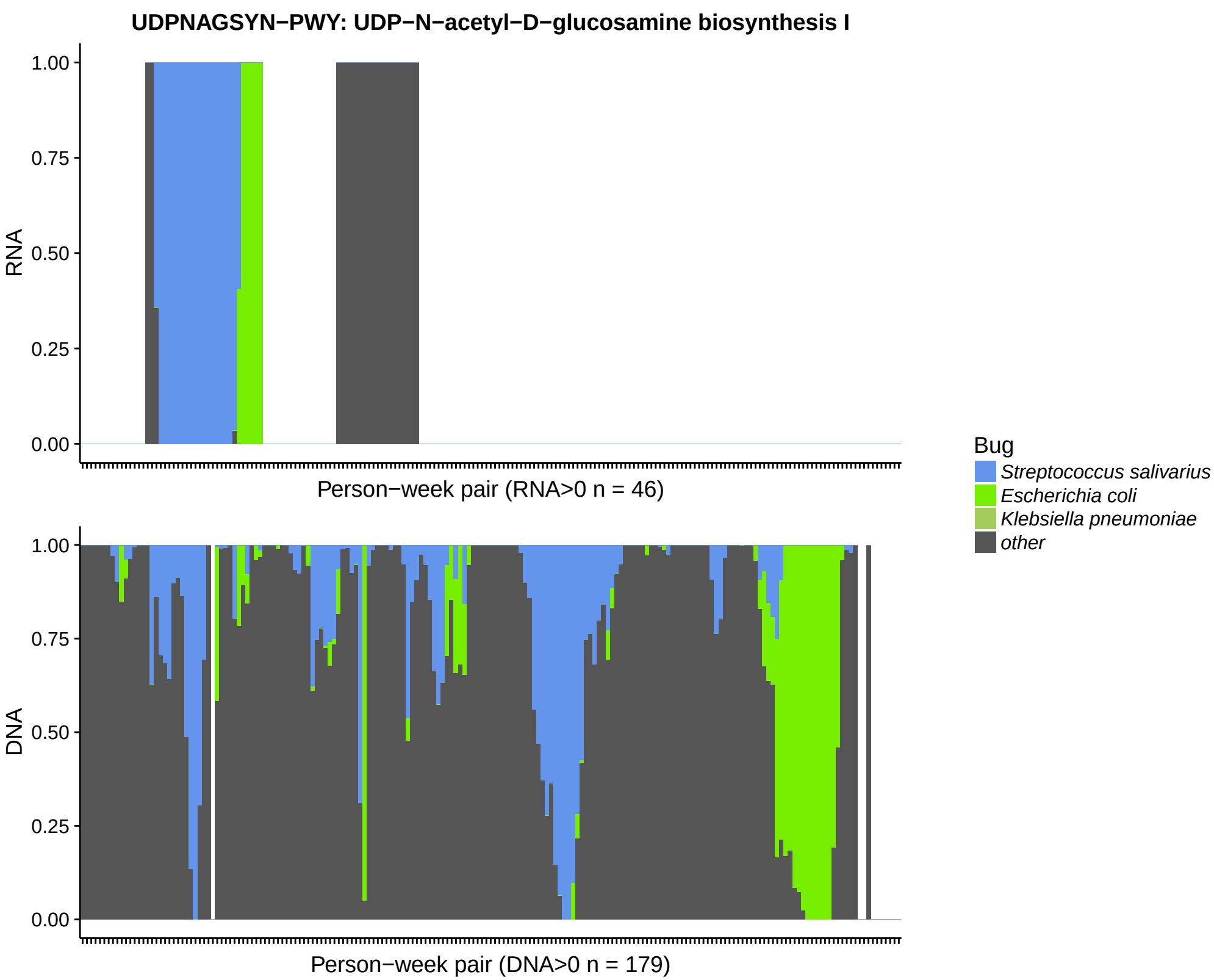

PWY−5367: petroselinate biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 23)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 182)
Bug
Eubacterium rectale
Ruminococcus torques
other

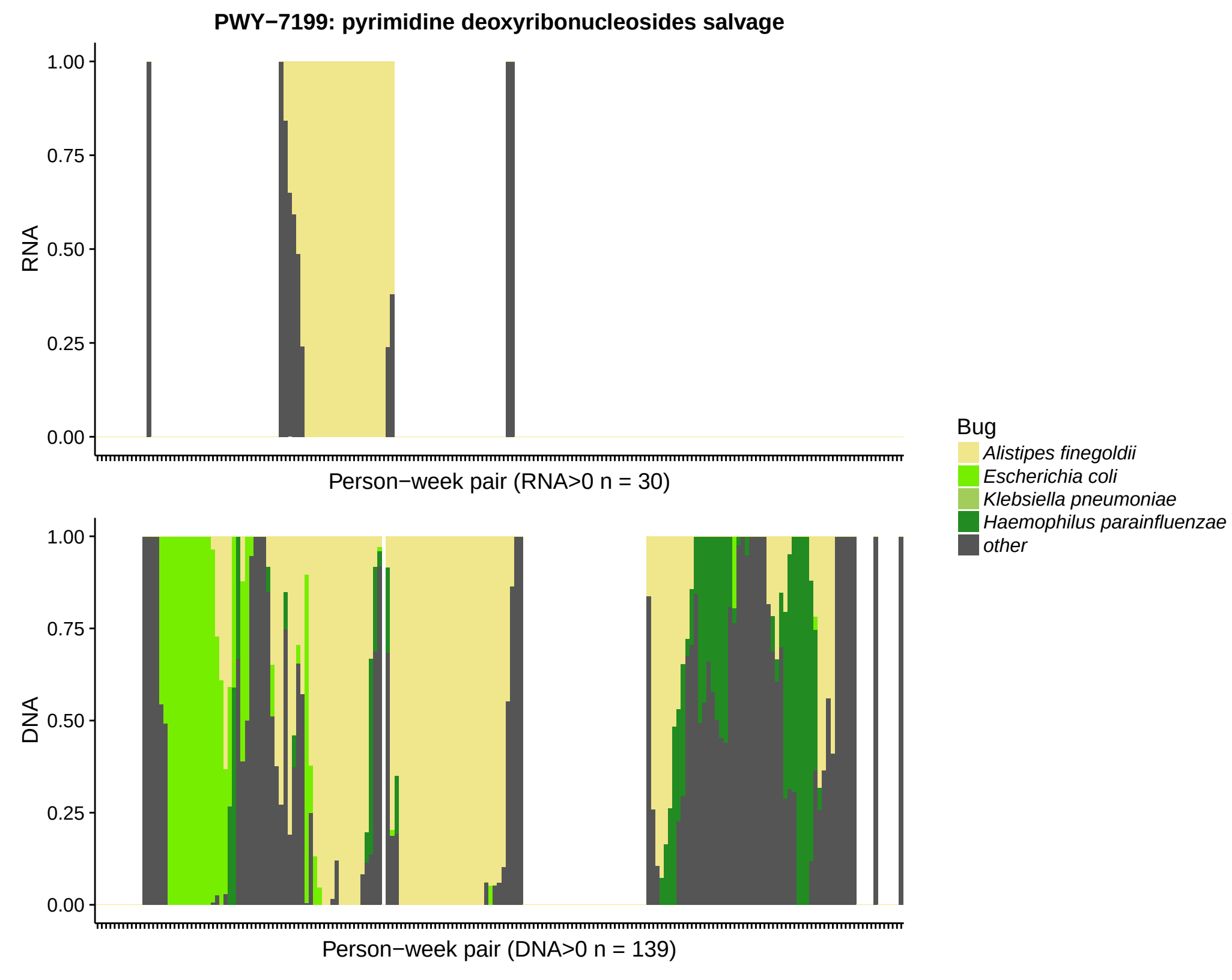

PWY0−1296: purine ribonucleosides degradation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 164)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium rectale
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Streptococcus salivarius
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
other

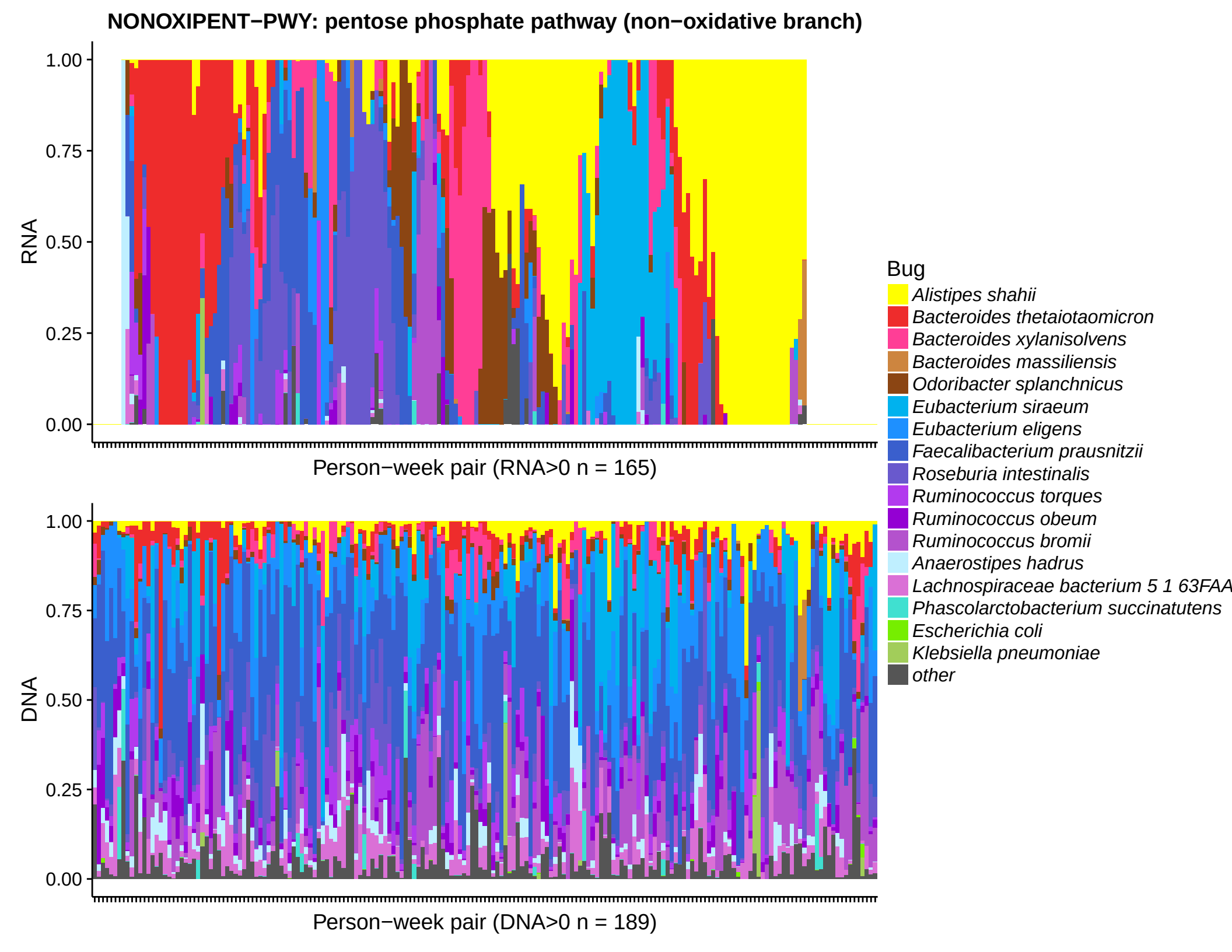

PWY66−422: D−galactose degradation V (Leloir pathway)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 138)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium rectale
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
other

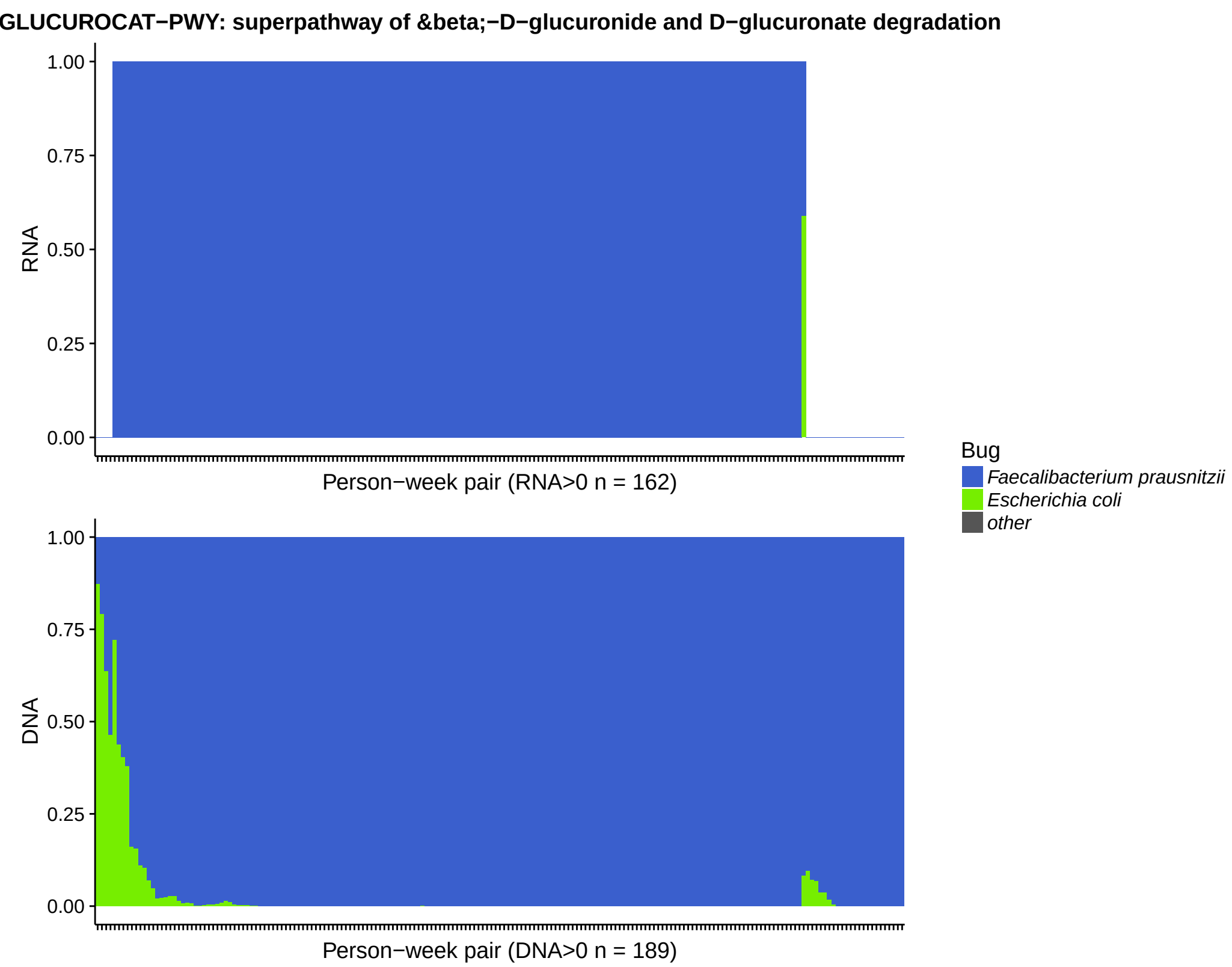

PWY66−400: glycolysis VI (metazoan)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 25)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 153)
Bug
Bacteroides ovatus
Bacteroides xylanisolvens
Escherichia coli
Haemophilus parainfluenzae
other

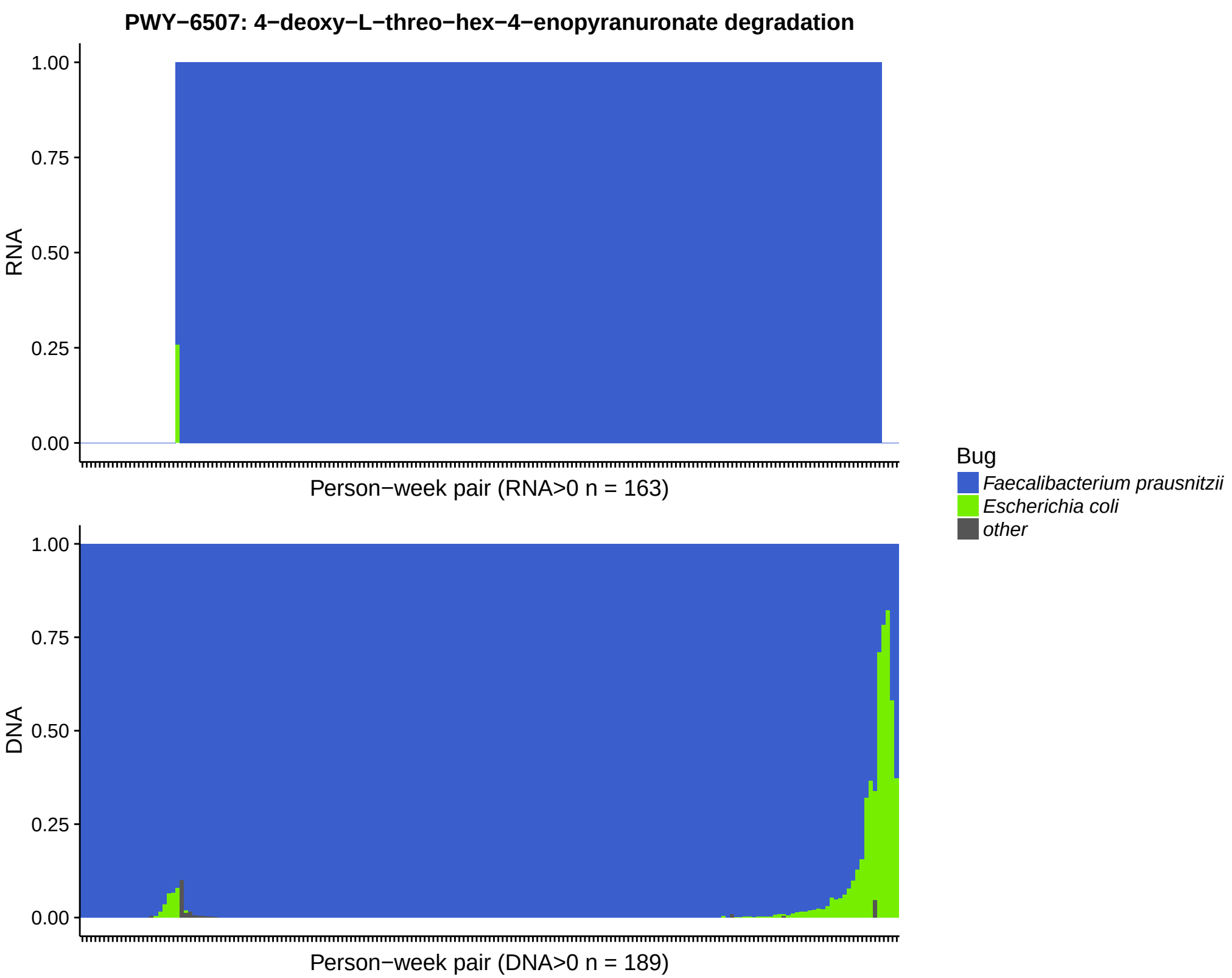

PWY−6386: UDP−N−acetylmuramoyl−pentapeptide biosynthesis II (lysine−containing)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 154)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes putredinis
Alistipes onderdonkii
Alistipes finegoldii
Bacteroides fragilis
Bacteroides ovatus
Bacteroides uniformis
Bacteroides xylanisolvens
Parabacteroides merdae
Parabacteroides distasonis
Odoribacter splanchnicus
Coprococcus comes
Eubacterium rectale
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia hominis
Ruminococcus torques
Ruminococcus obeum
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Rothia mucilaginosa
Escherichia coli
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
other

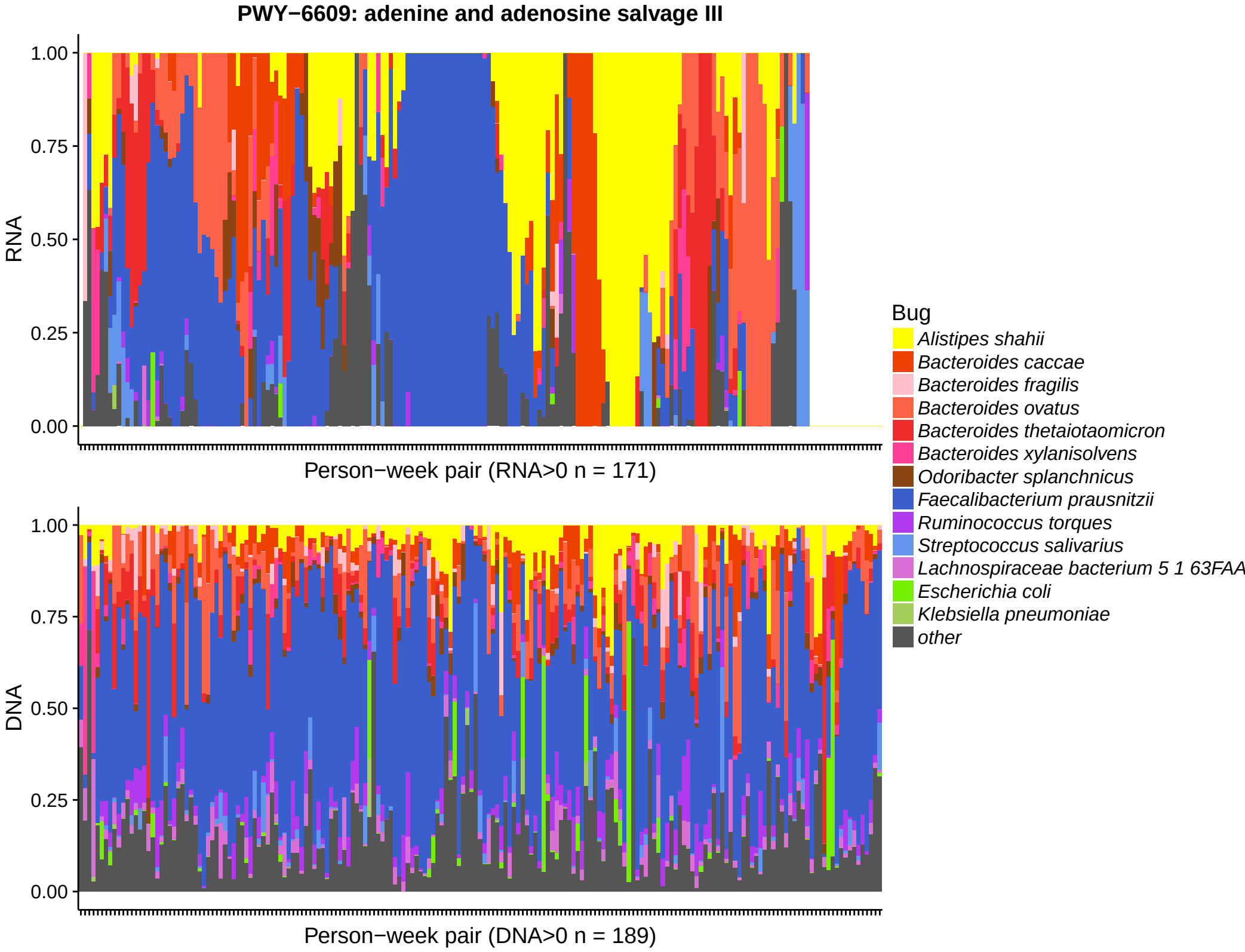

UDPNAGSYN−PWY: UDP−N−acetyl−D−glucosamine biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 46)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 179)
Bug
Streptococcus salivarius
Escherichia coli
Klebsiella pneumoniae
other

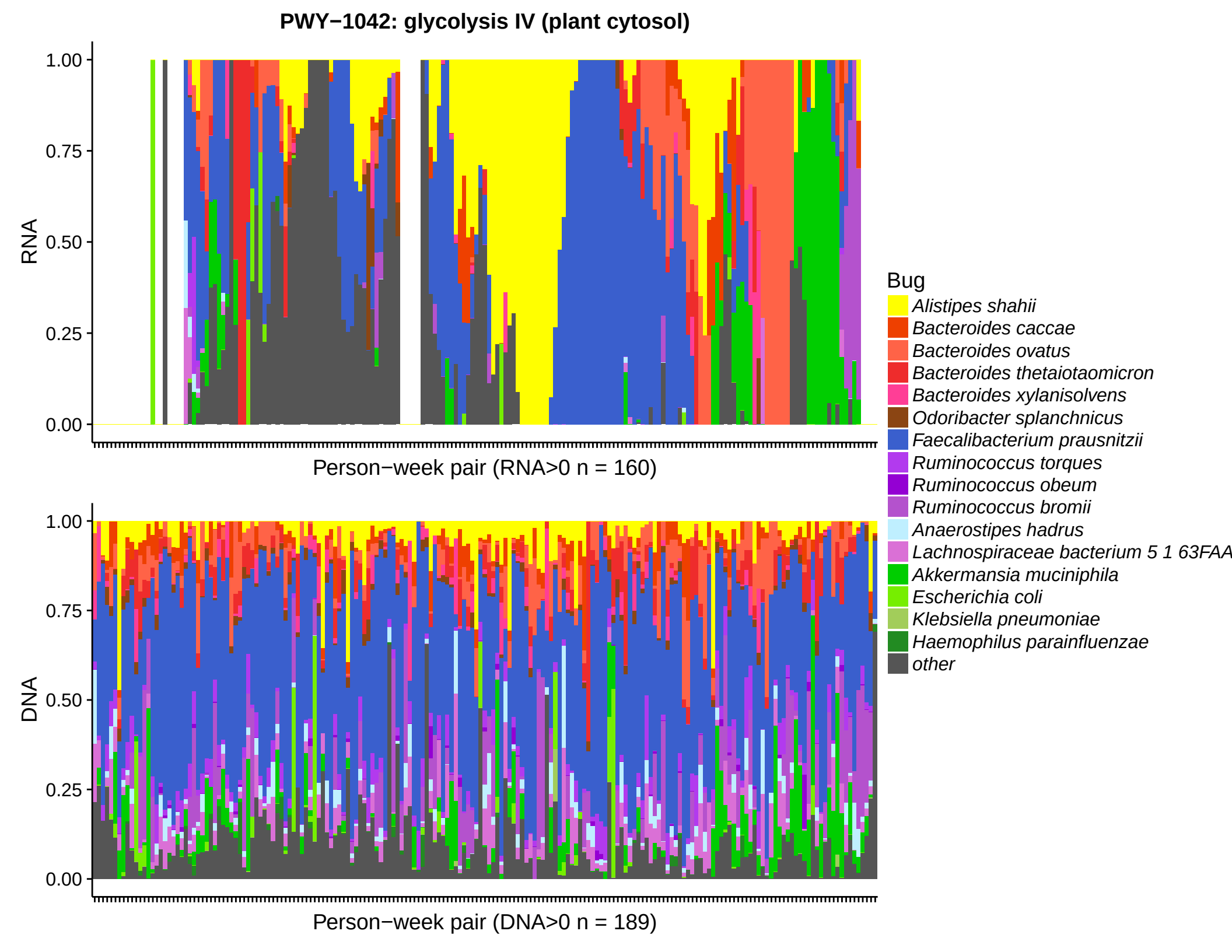

PWY−7199: pyrimidine deoxyribonucleosides salvage
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 30)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 139)
Bug
Alistipes finegoldii
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

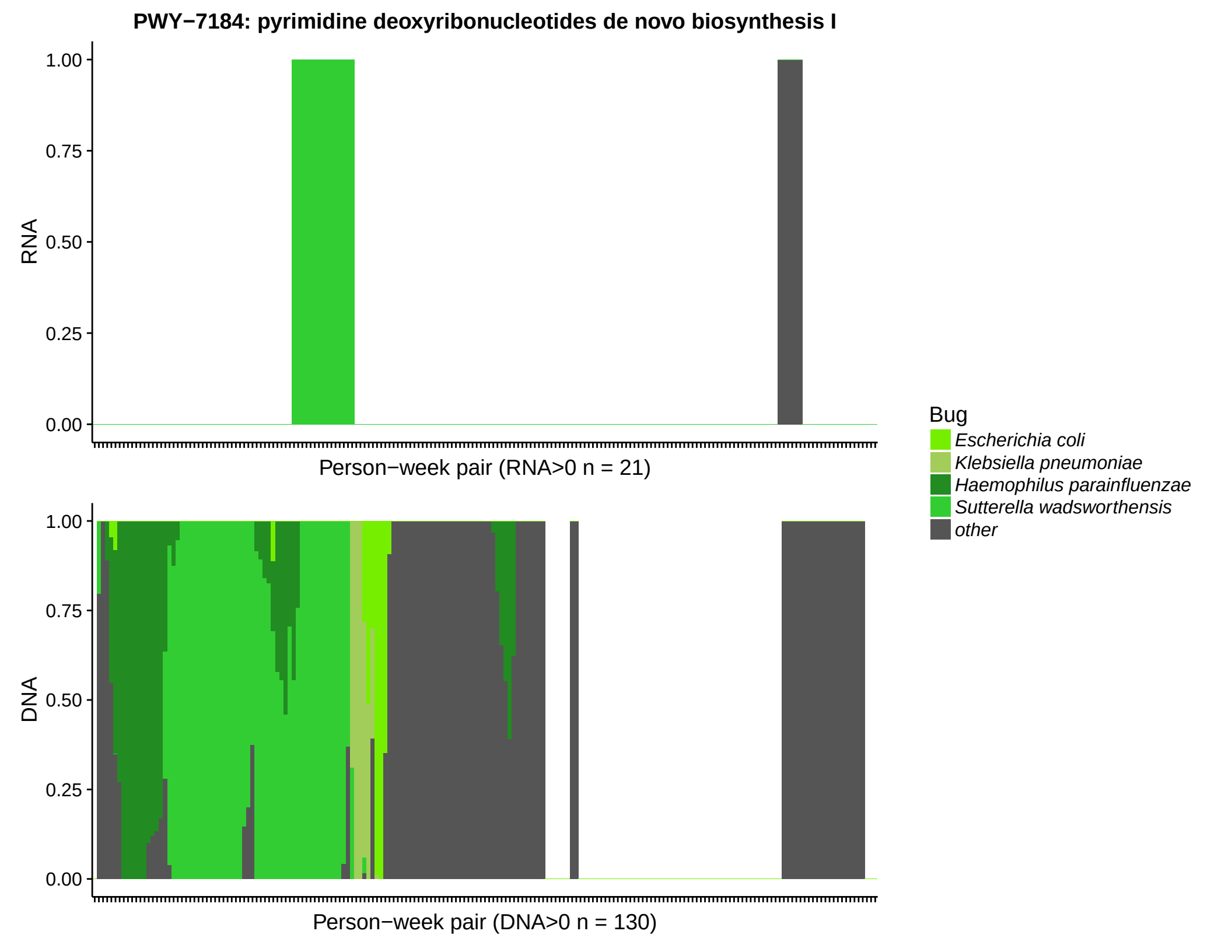

NONOXIPENT−PWY: pentose phosphate pathway (non−oxidative branch)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 165)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Bacteroides massiliensis
Odoribacter splanchnicus
Eubacterium siraeum
Eubacterium eligens
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Escherichia coli
Klebsiella pneumoniae
other


GLUCUROCAT−PWY: superpathway of β−D−glucuronide and D−glucuronate degradation
1.00
0.75
0.50
0.25
0.00
RNA
Person−week pair (RNA>0 n = 162)
1.00
0.75
0.50
0.25
0.00
DNA
Person−week pair (DNA>0 n = 189)
Bug
Faecalibacterium prausnitzii
Escherichia coli
other

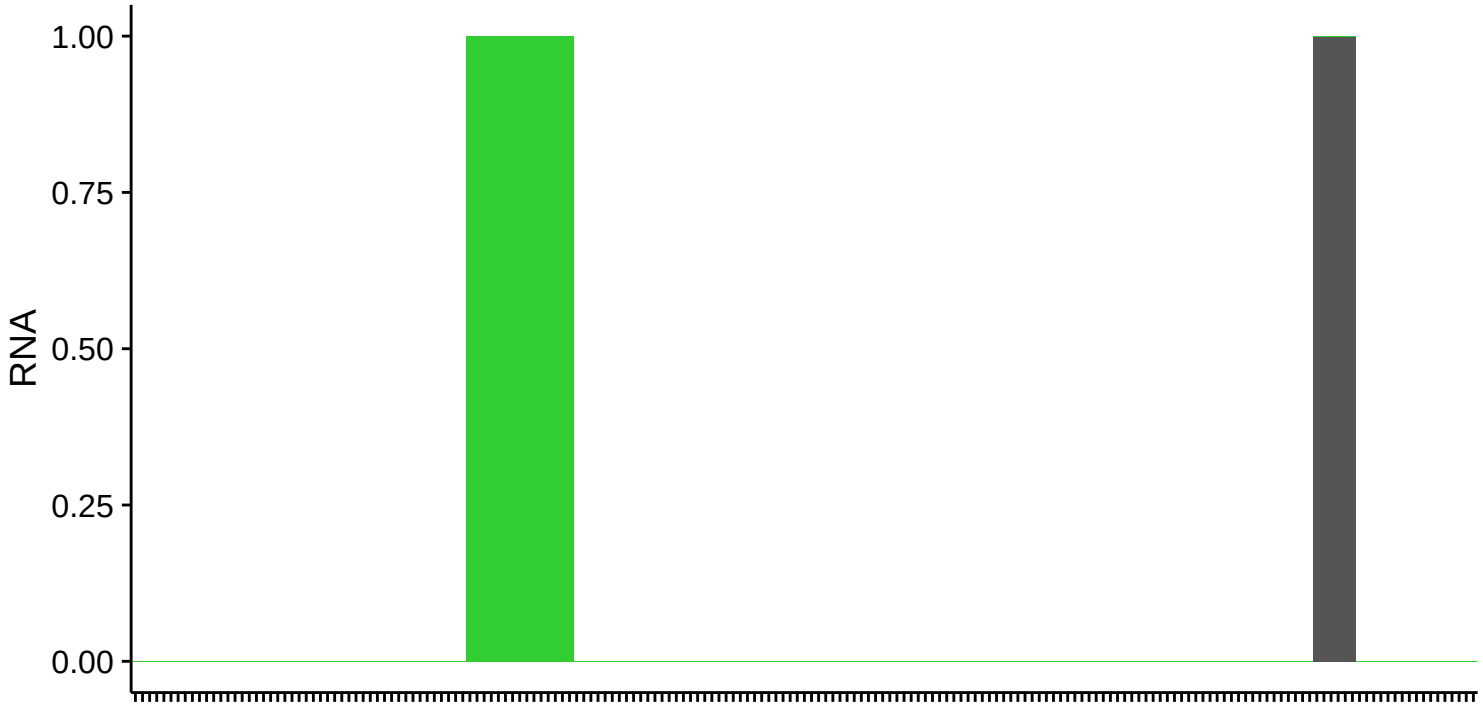

PWY−6507: 4−deoxy−L−threo−hex−4−enopyranuronate degradation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 163)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Faecalibacterium prausnitzii
Escherichia coli
other

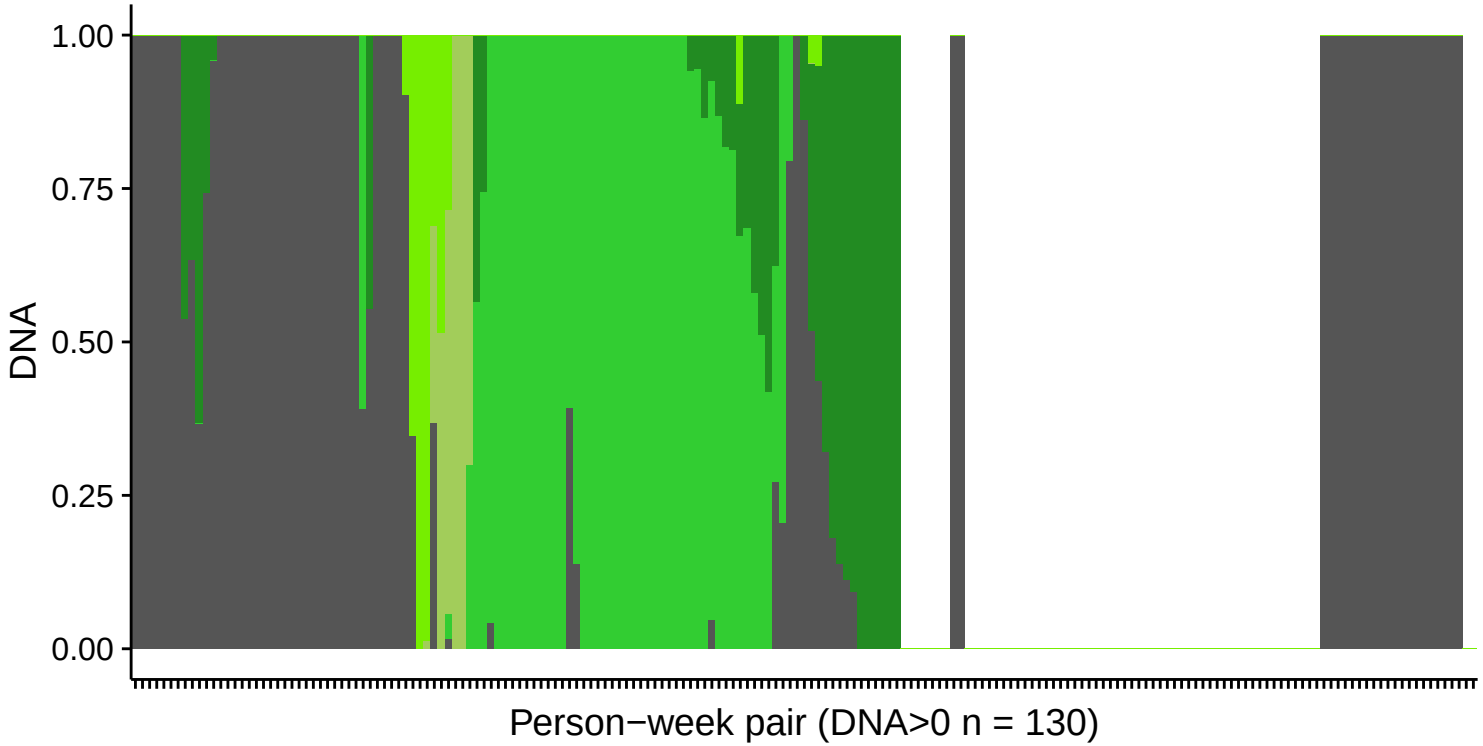

PWY−6609: adenine and adenosine salvage III
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 171)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Bacteroides caccae
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Ruminococcus torques
Streptococcus salivarius
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
other

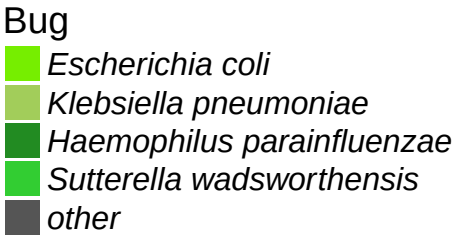

PWY−1042: glycolysis IV (plant cytosol)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 160)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Bacteroides caccae
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

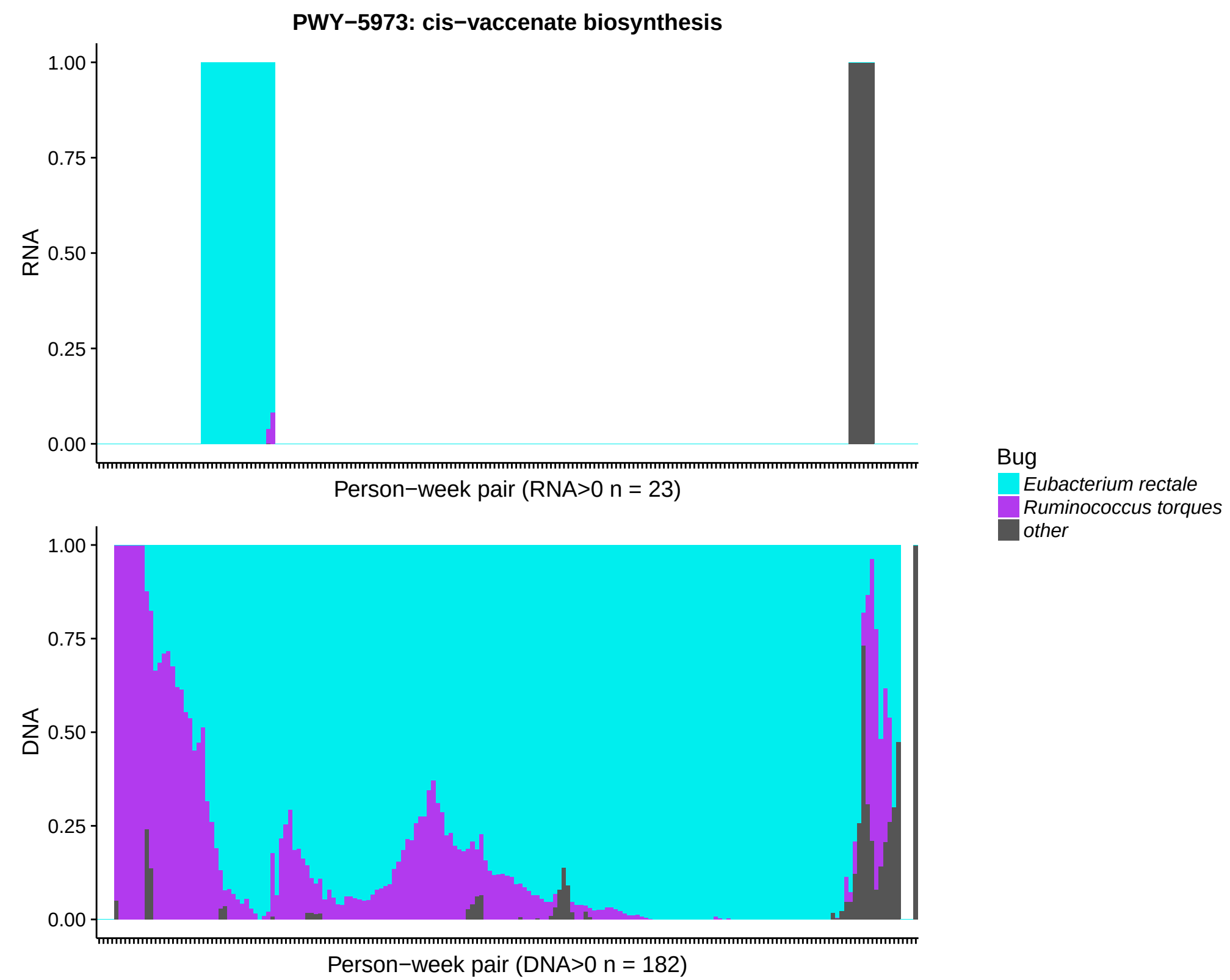

PWY−7184: pyrimidine deoxyribonucleotides de novo biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 21)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 130)
Bug
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Sutterella wadsworthensis
other

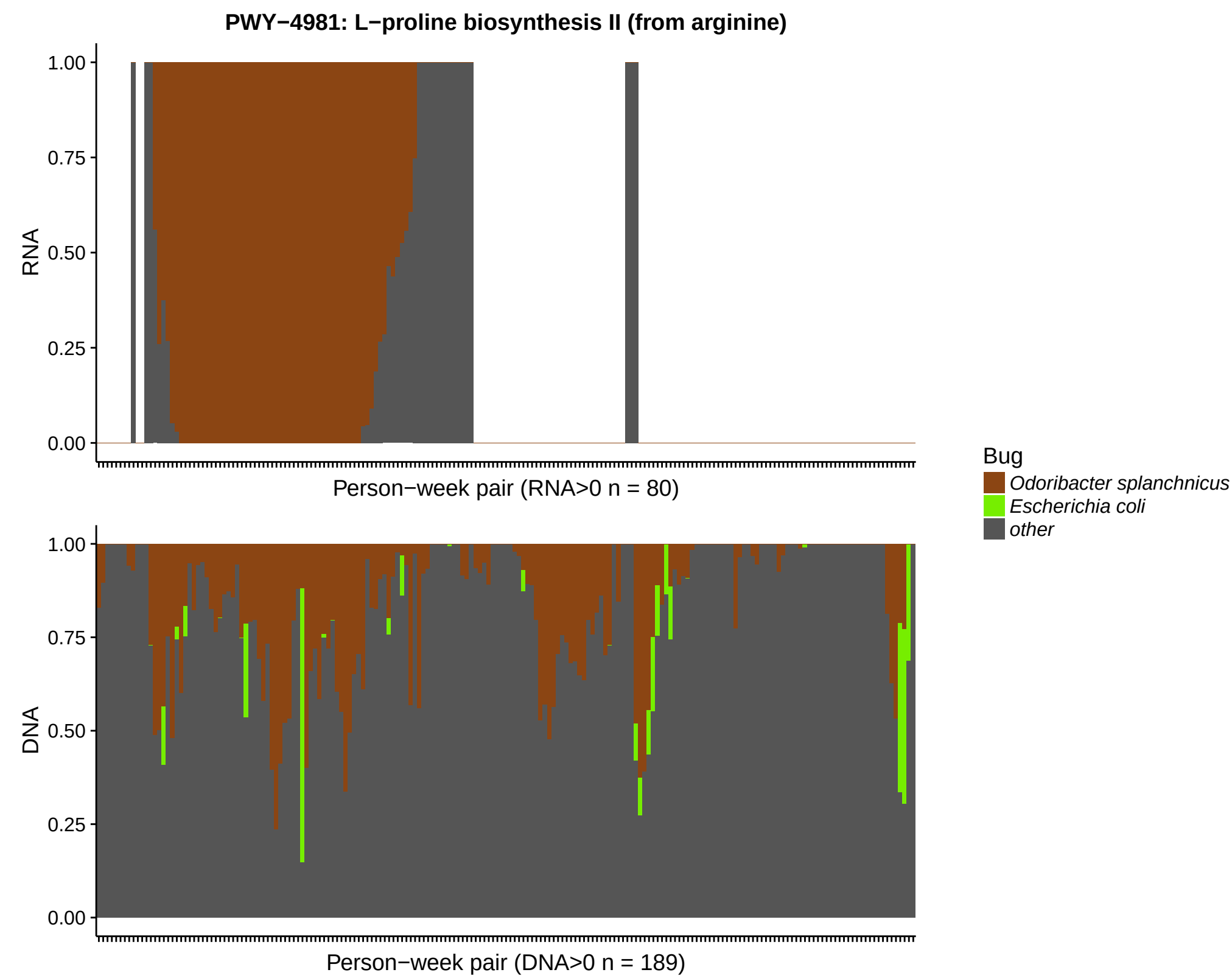
PWY0−166: superpathway of pyrimidine deoxyribonucleotides de novo biosynthesis (E. coli)

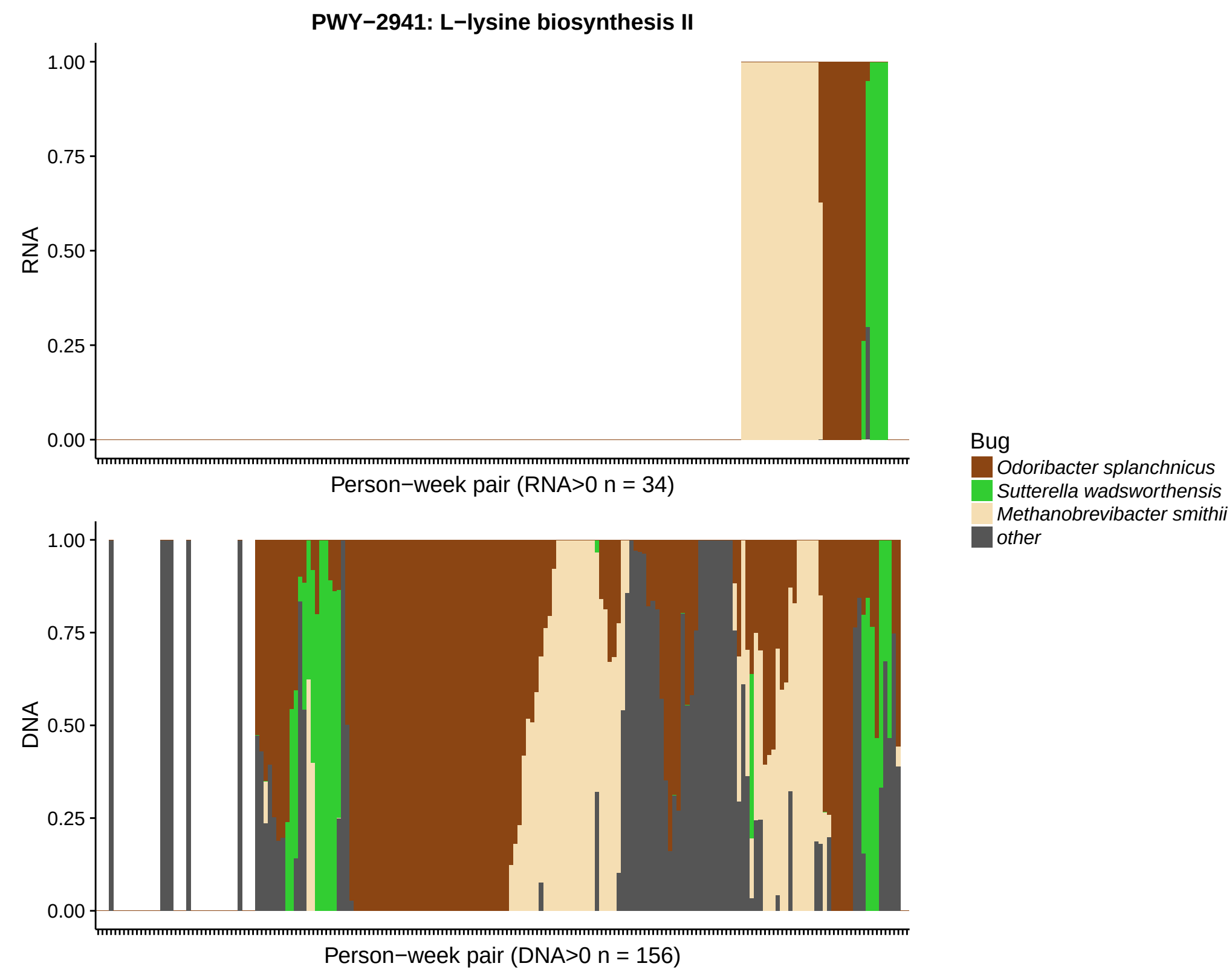


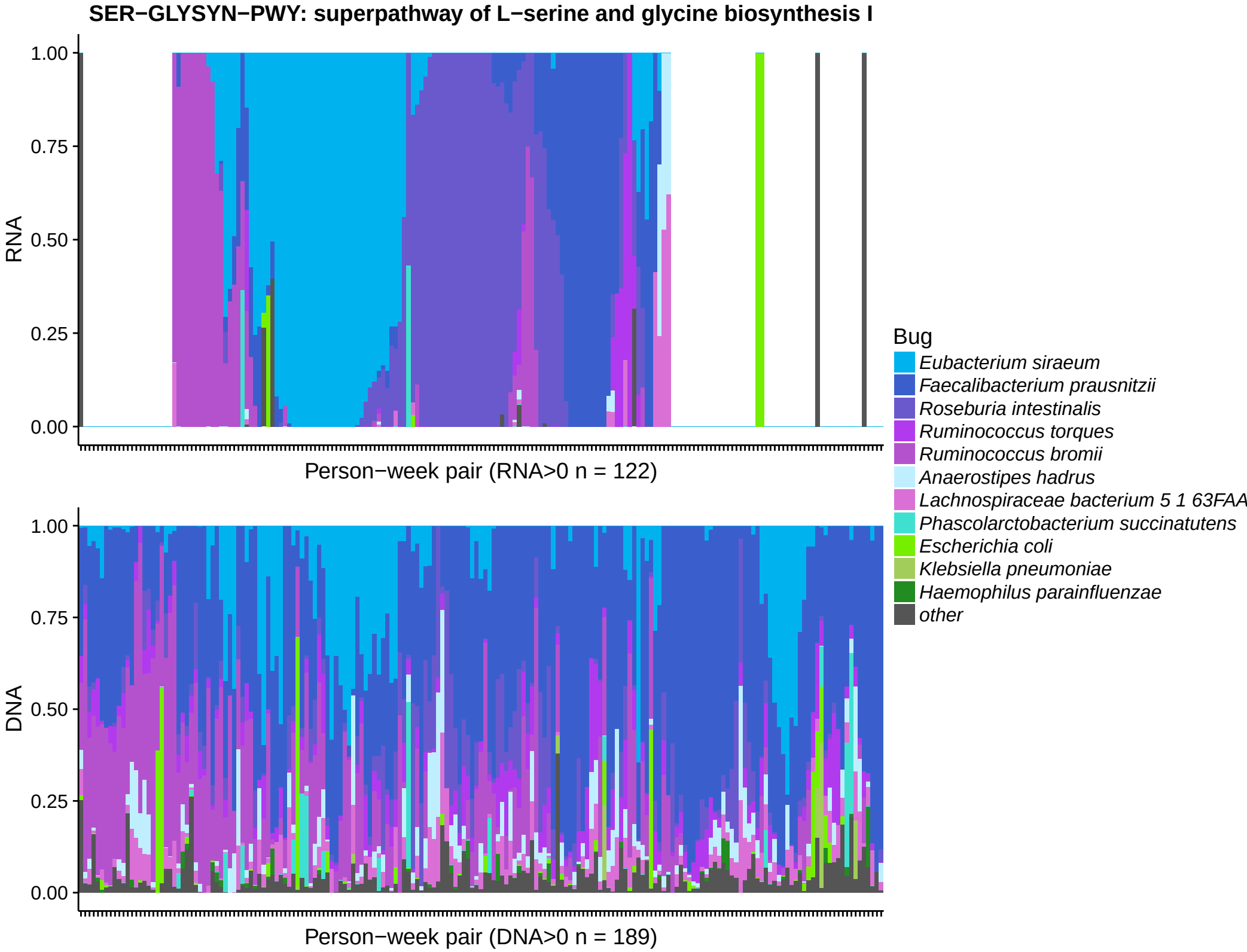


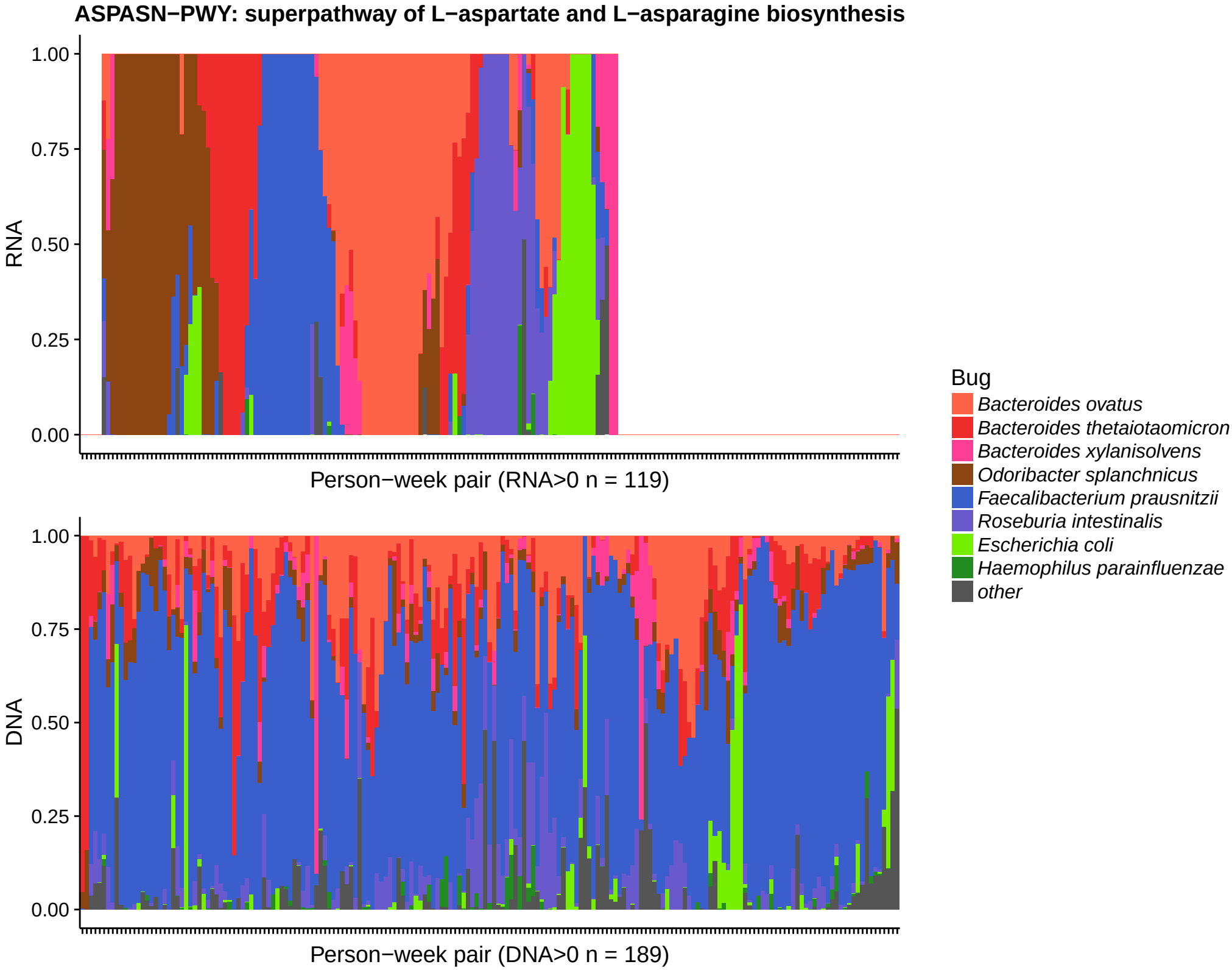


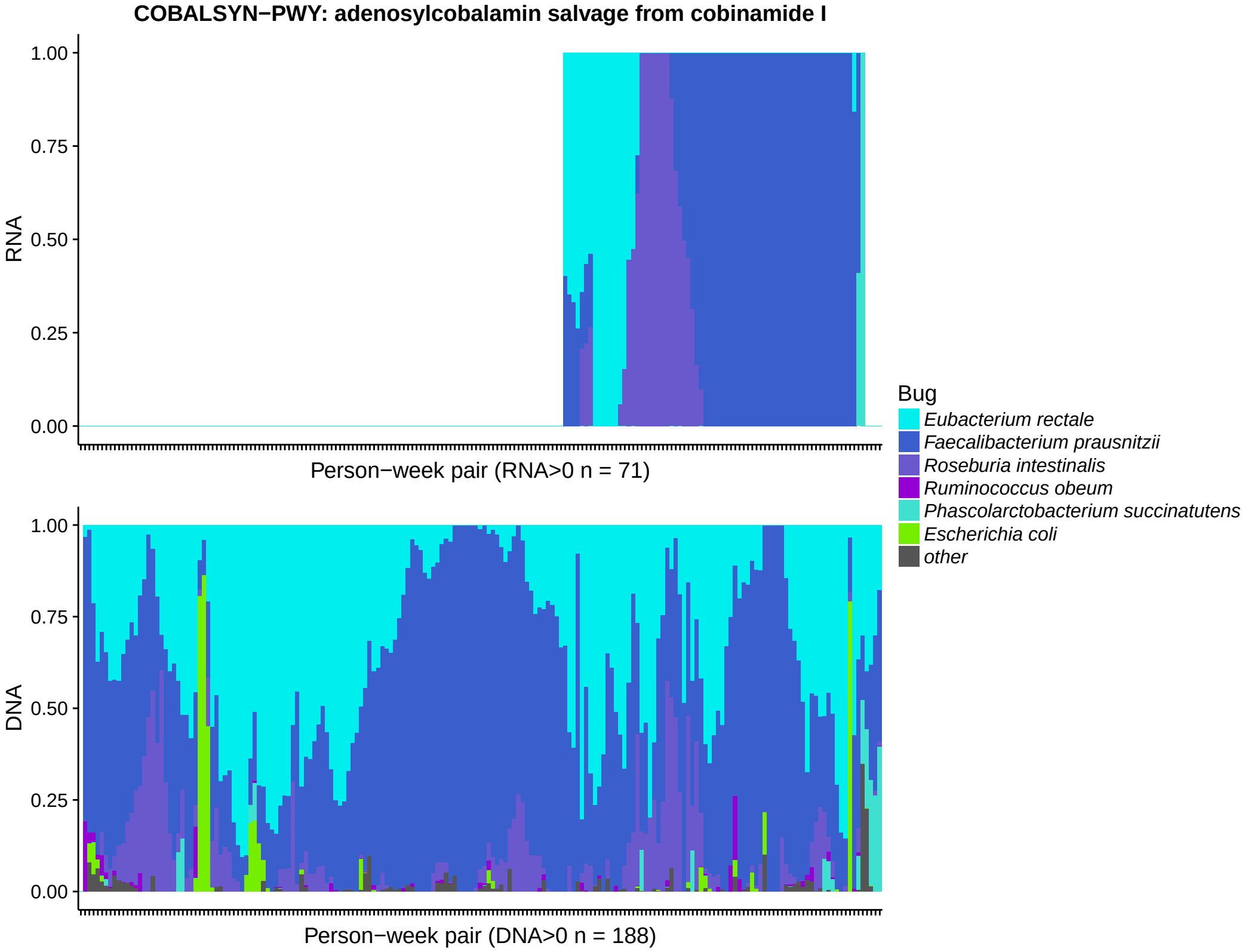

PWY−5973: cis−vaccenate biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 23)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 182)
Bug
Eubacterium rectale
Ruminococcus torques
other

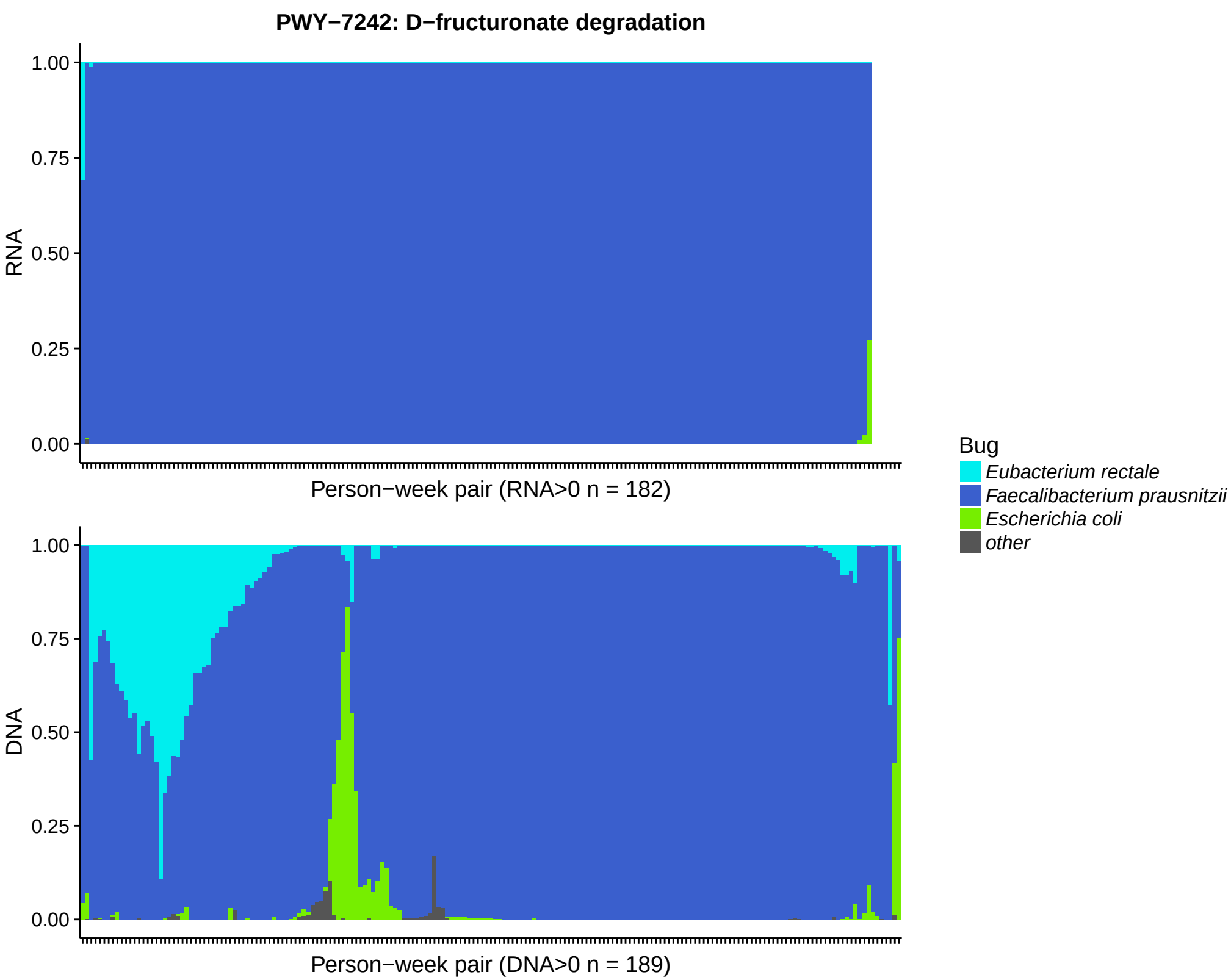

PWY−4981: L−proline biosynthesis II (from arginine)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 80)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Odoribacter splanchnicus
Escherichia coli
other

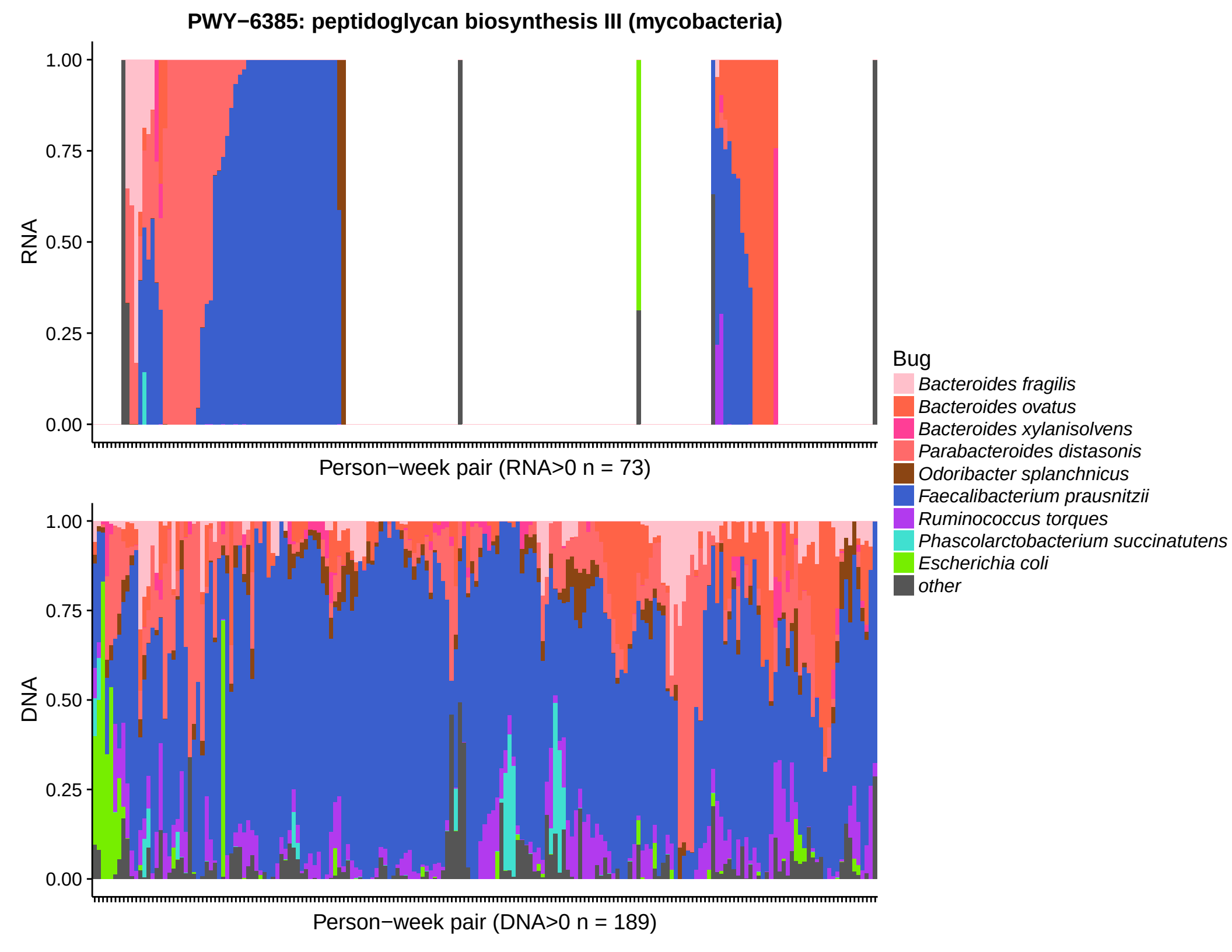

PWY−2941: L−lysine biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 34)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 156)
Bug
Odoribacter splanchnicus
Sutterella wadsworthensis
Methanobrevibacter smithii
other

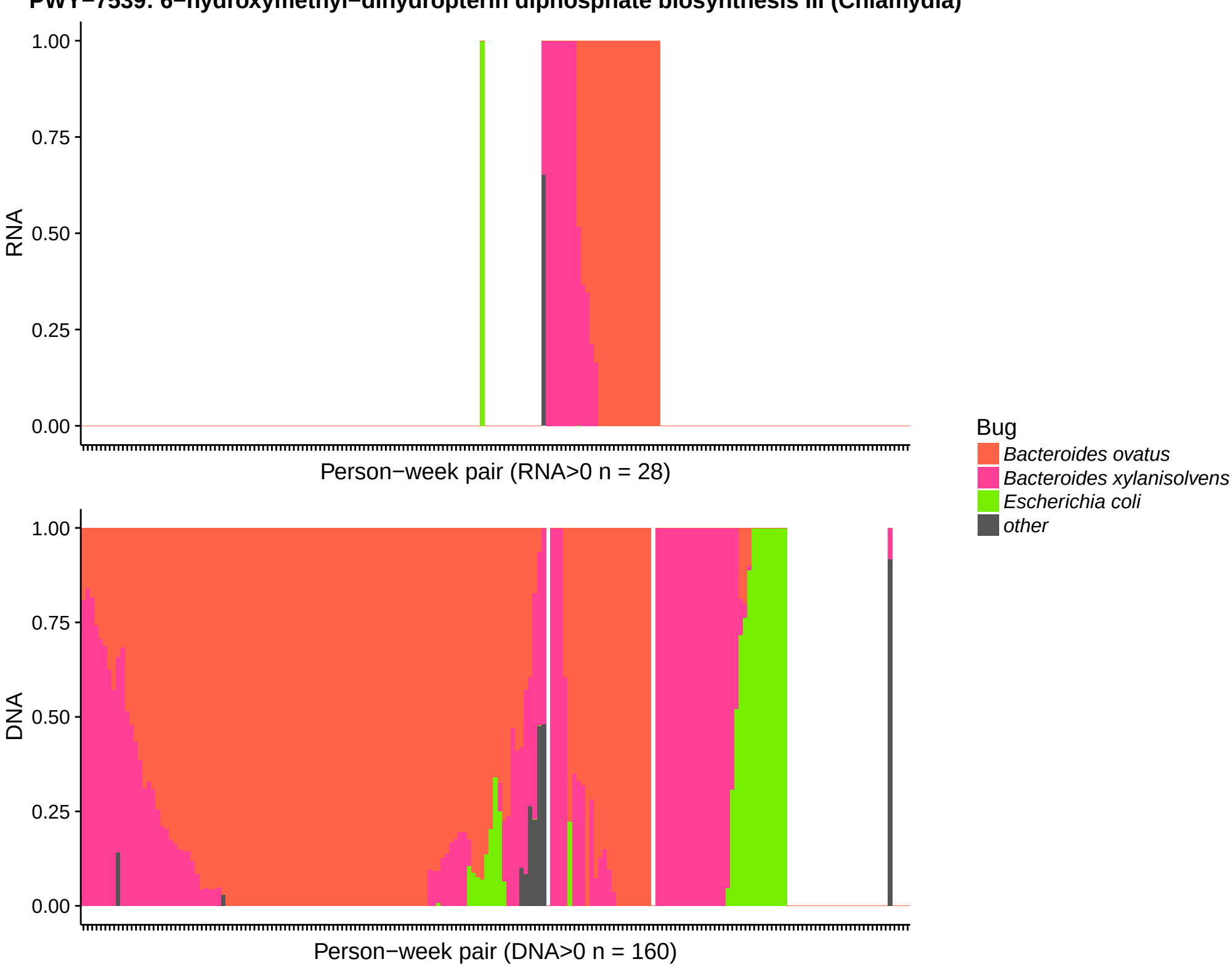

SER−GLYSYN−PWY: superpathway of L−serine and glycine biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 122)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus torques
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

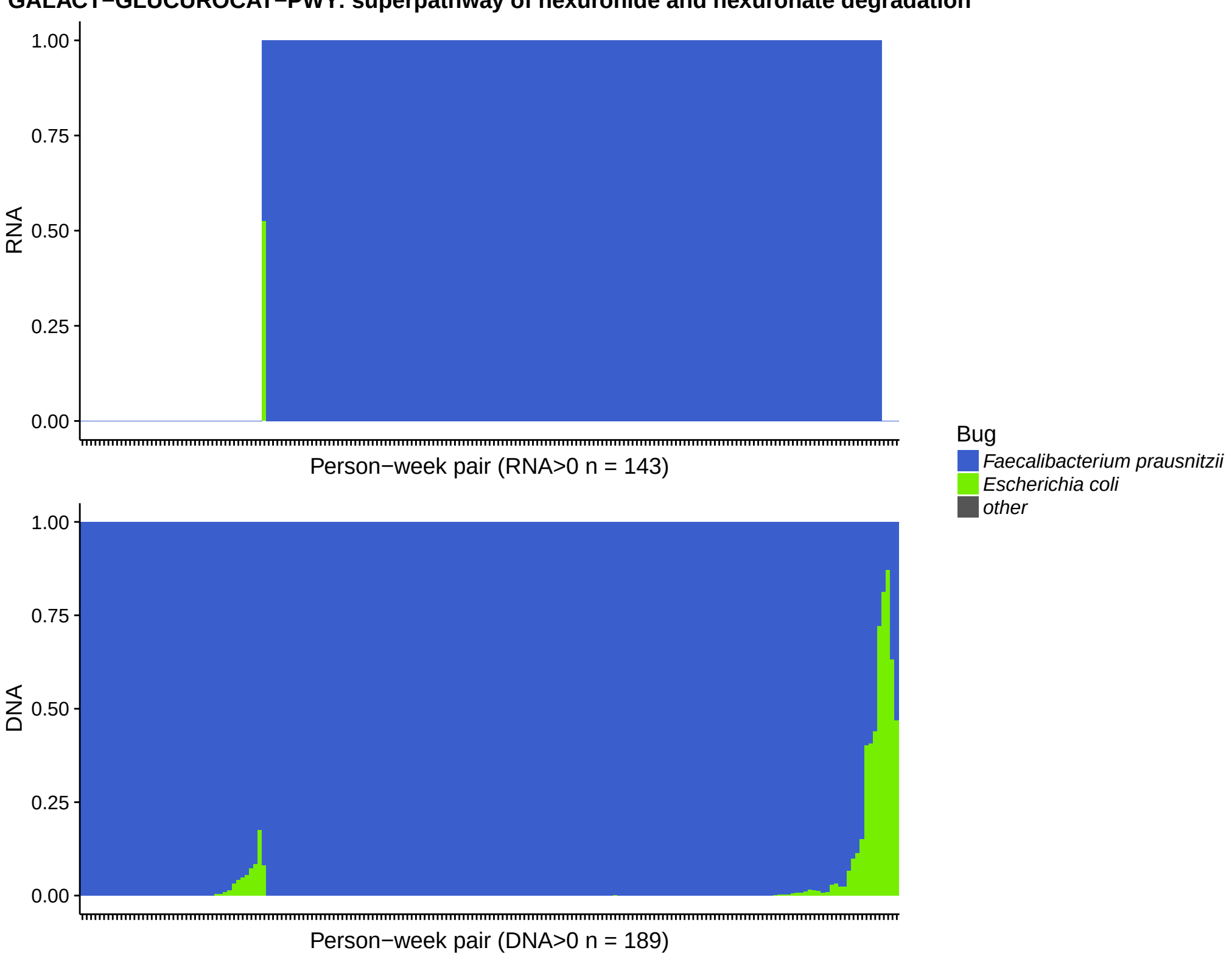

ASPASN−PWY: superpathway of L−aspartate and L−asparagine biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 119)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Roseburia intestinalis
Escherichia coli
Haemophilus parainfluenzae
other

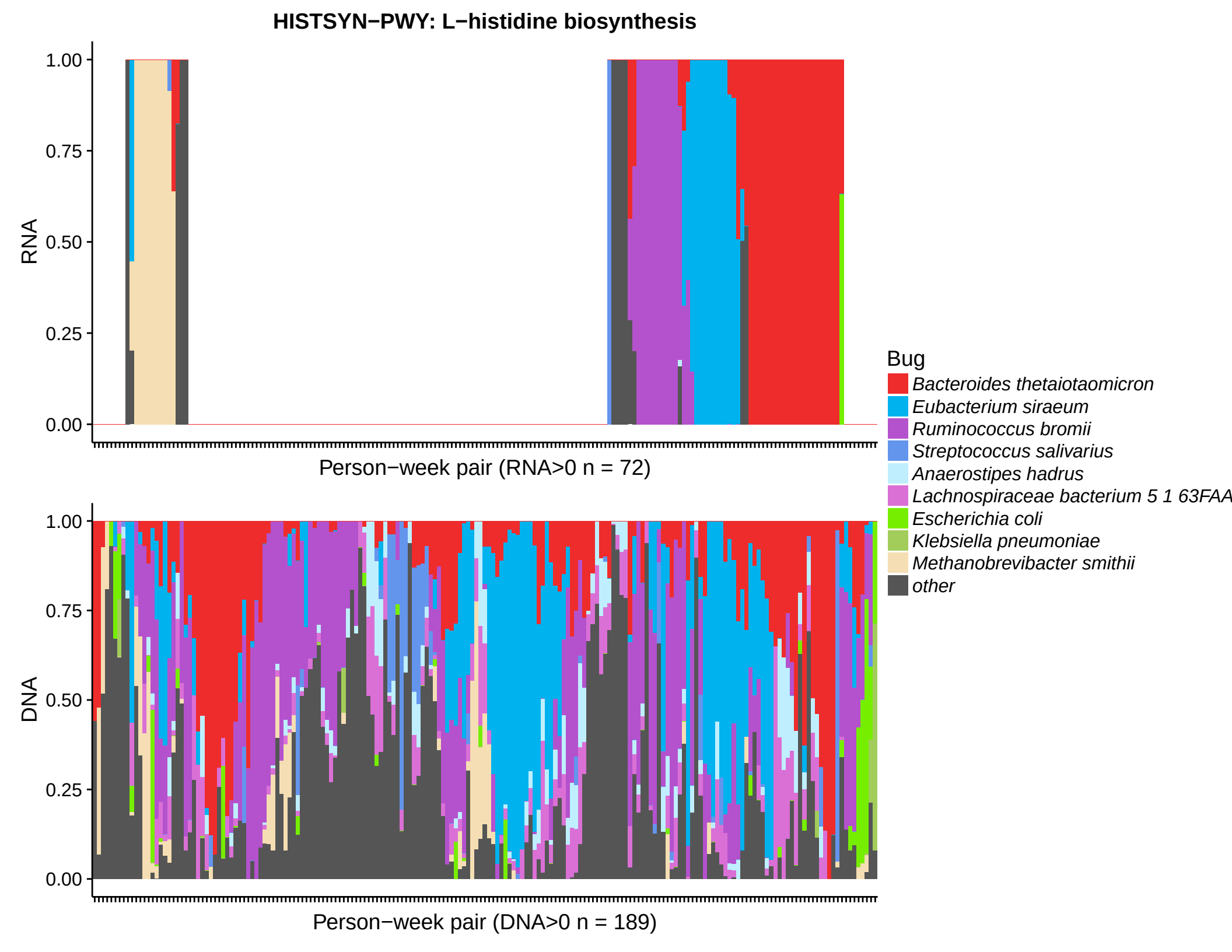

COBALSYN−PWY: adenosylcobalamin salvage from cobinamide I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 71)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 188)
Bug
Eubacterium rectale
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus obeum
Phascolarctobacterium succinatutens
Escherichia coli
other

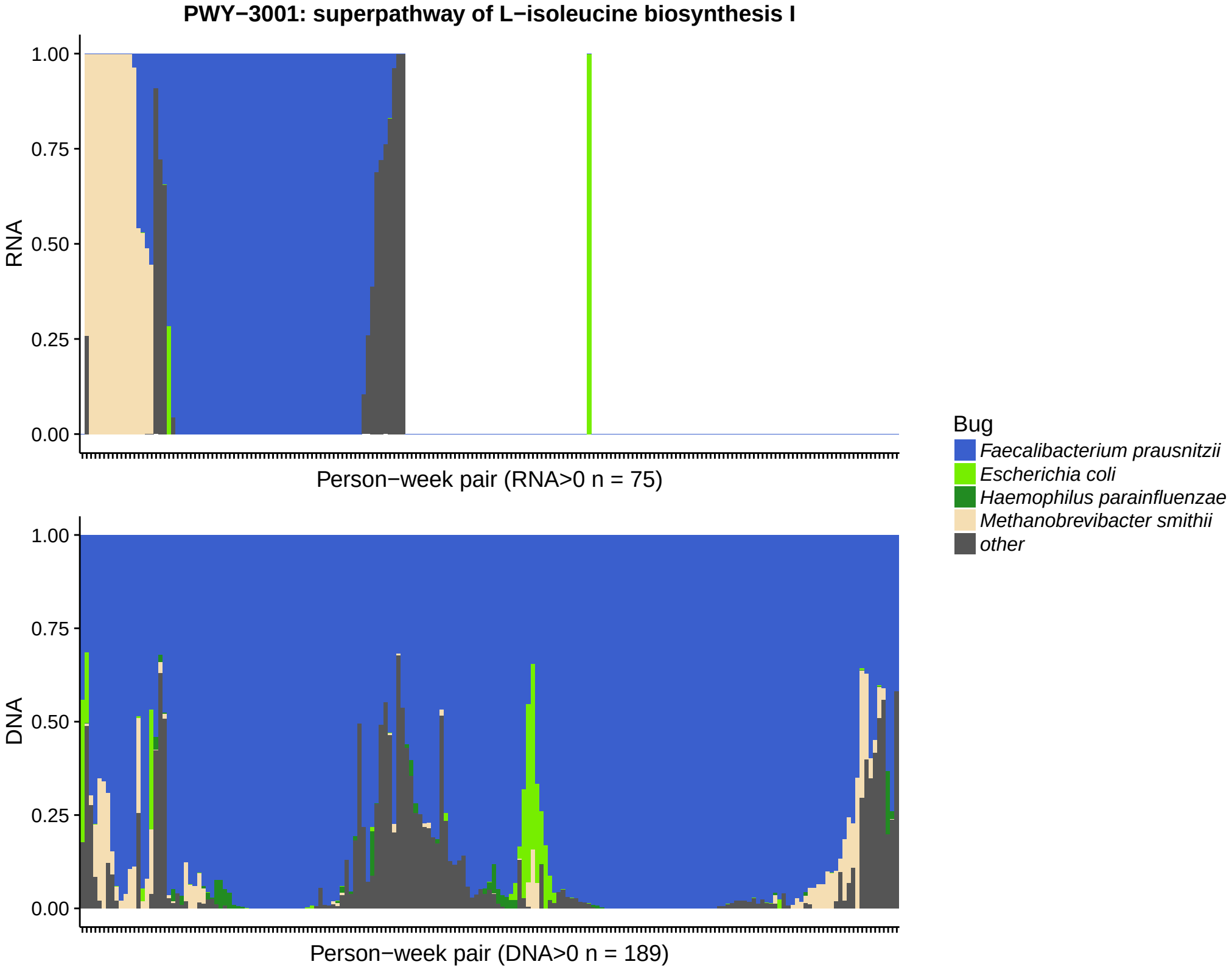

PWY−7242: D−fructuronate degradation
1.00
0.75
0.50
0.25
0.00
RNA
Person−week pair (RNA>0 n = 182)
DNA
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium rectale
Faecalibacterium prausnitzii
Escherichia coli
other

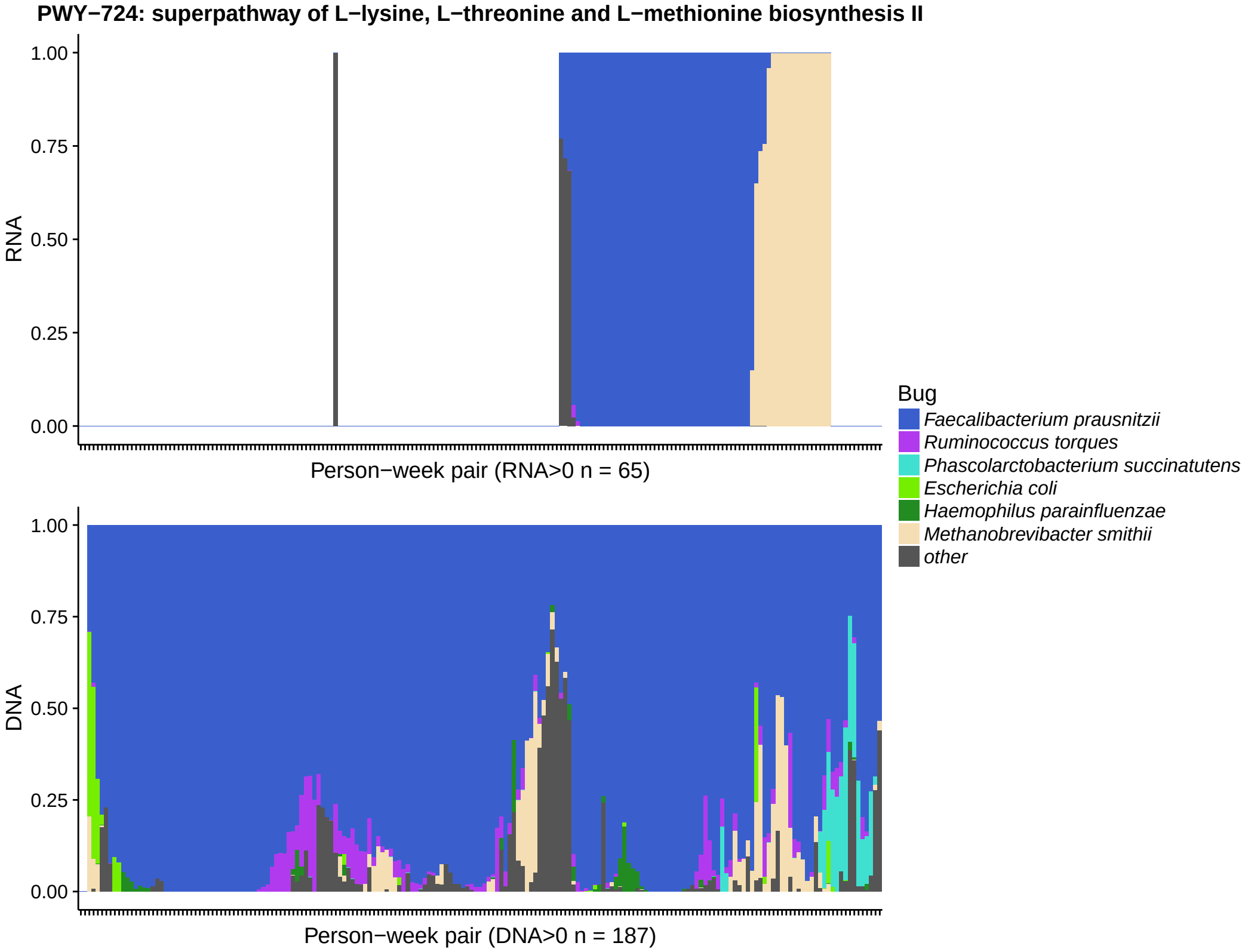

PWY−6385: peptidoglycan biosynthesis III (mycobacteria)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 73)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides fragilis
Bacteroides ovatus
Bacteroides xylanisolvens
Parabacteroides distasonis
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Ruminococcus torques
Phascolarctobacterium succinatutens
Escherichia coli
other

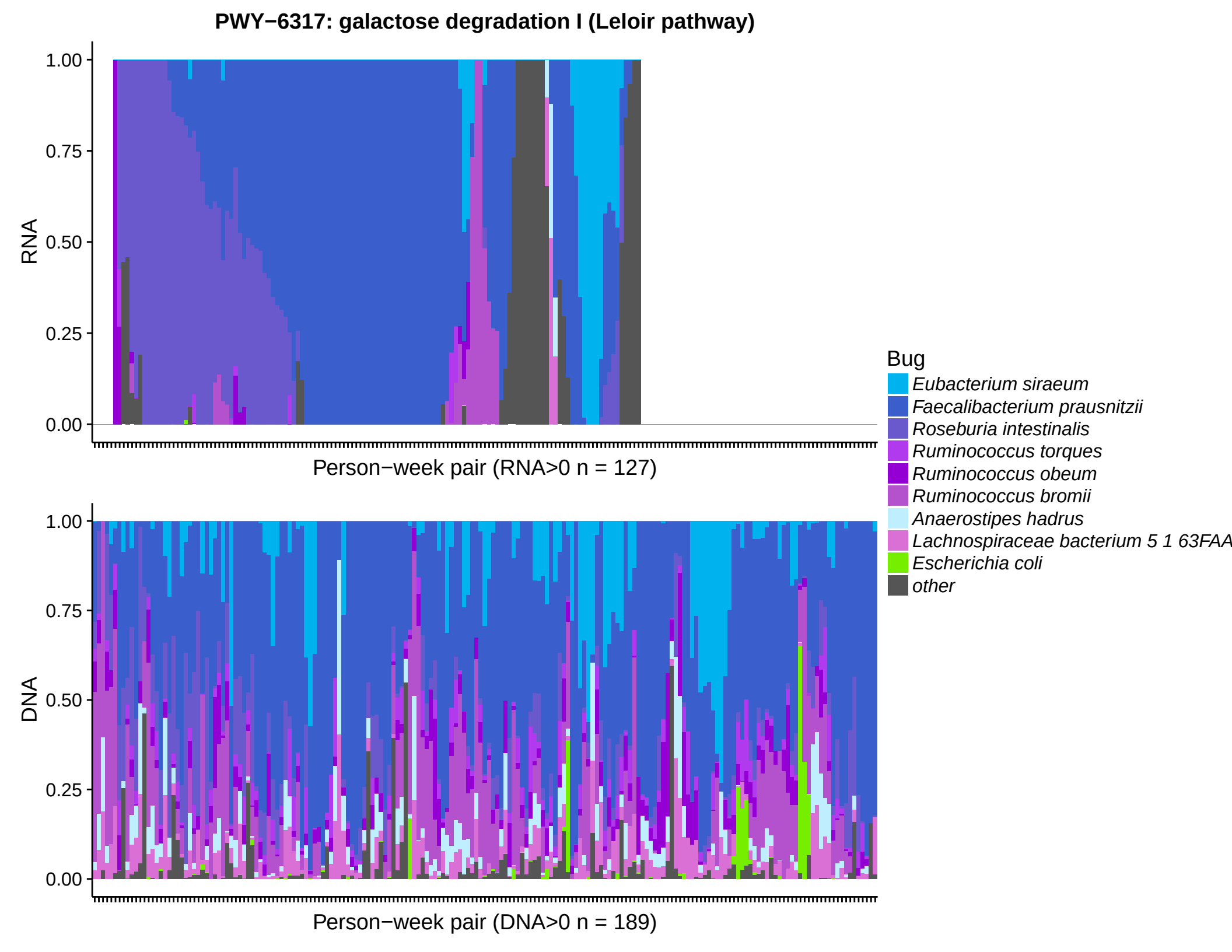

PWY−7539: 6−hydroxymethyl−dihydropterin diphosphate biosynthesis III (Chlamydia)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 28)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 160)
Bug
Bacteroides ovatus
Bacteroides xylanisolvens
Escherichia coli
other


GALACT−GLUCUROCAT−PWY: superpathway of hexuronide and hexuronate degradation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 143)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Faecalibacterium prausnitzii
Escherichia coli
other

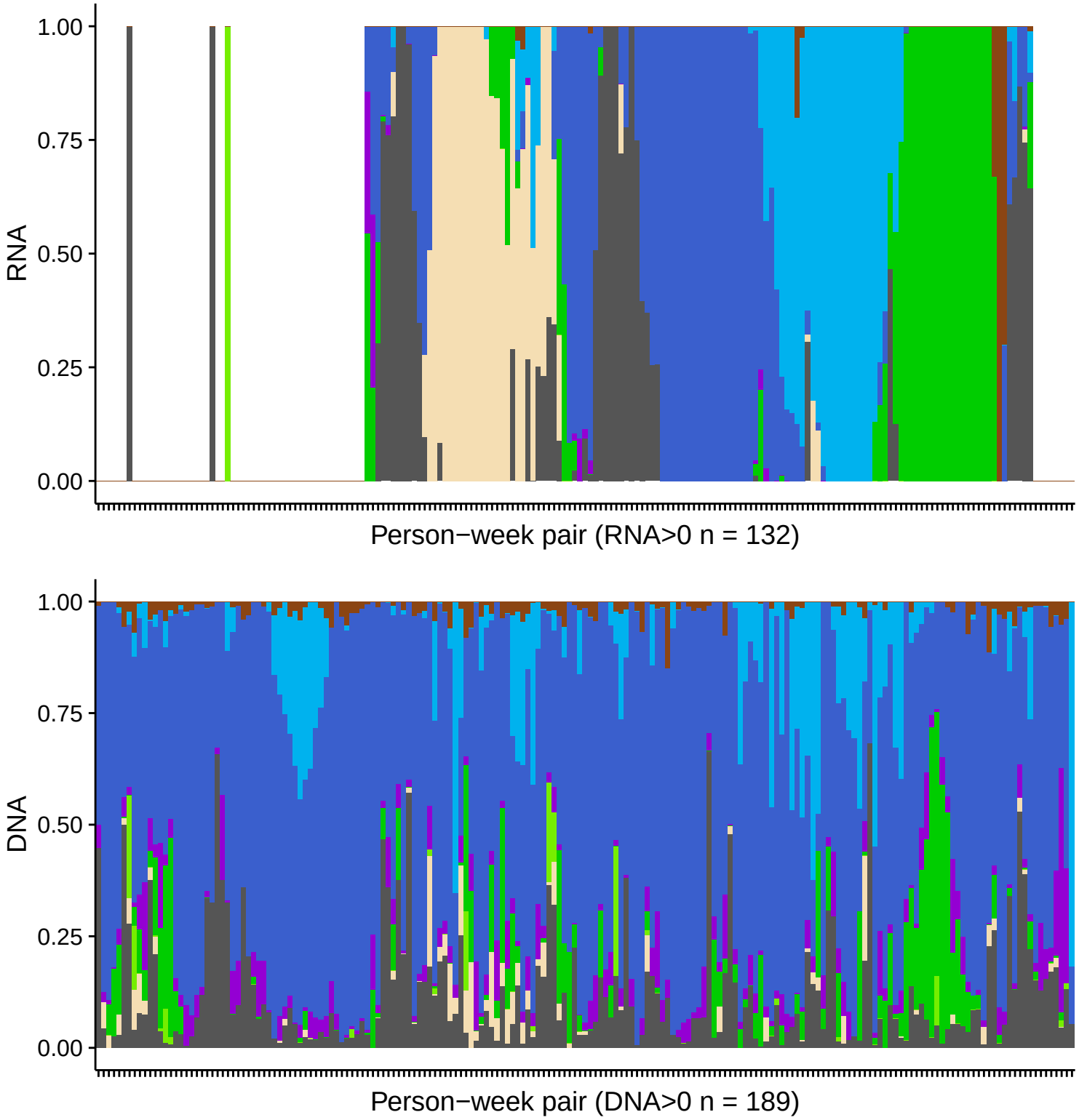

HISTSYN−PWY: L−histidine biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 72)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides thetaiotaomicron
Eubacterium siraeum
Ruminococcus bromii
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
Klebsiella pneumoniae
Methanobrevibacter smithii
other

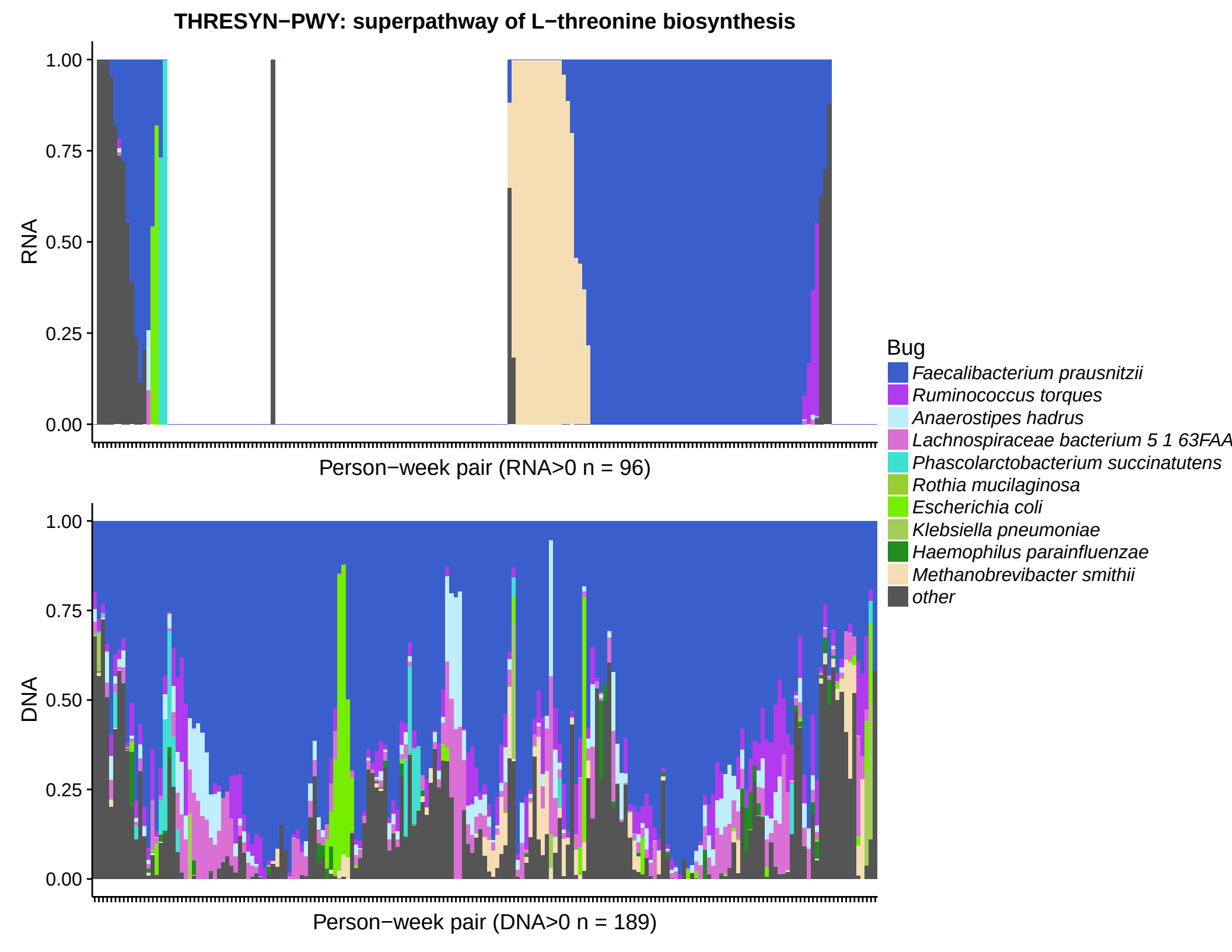

PWY−3001: superpathway of L−isoleucine biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 75)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Faecalibacterium prausnitzii
Escherichia coli
Haemophilus parainfluenzae
Methanobrevibacter smithii
other

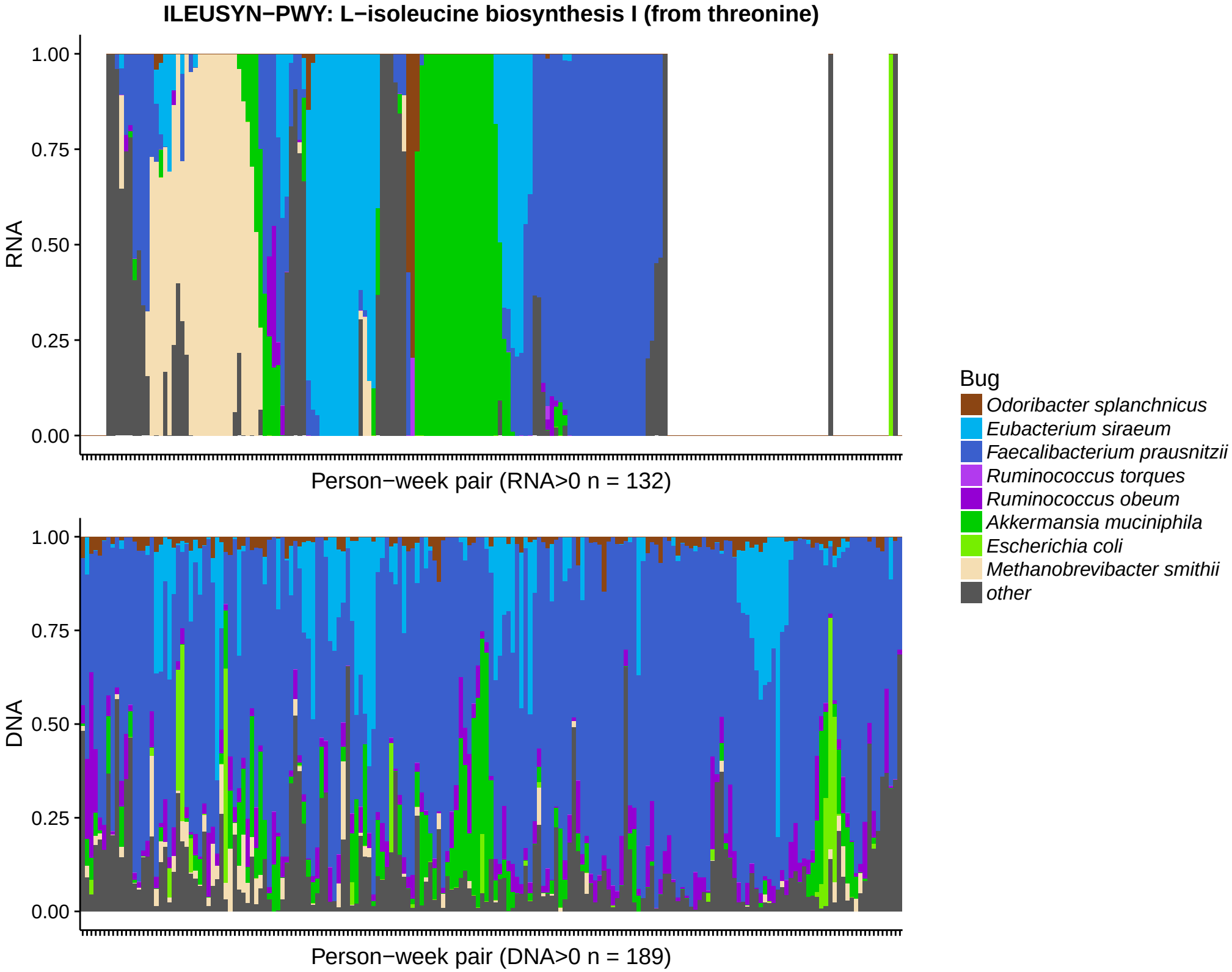

PWY−724: superpathway of L−lysine, L−threonine and L−methionine biosynthesis II
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 65)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 187)
Bug
Faecalibacterium prausnitzii
Ruminococcus torques
Phascolarctobacterium succinatutens
Escherichia coli
Haemophilus parainfluenzae
Methanobrevibacter smithii
other

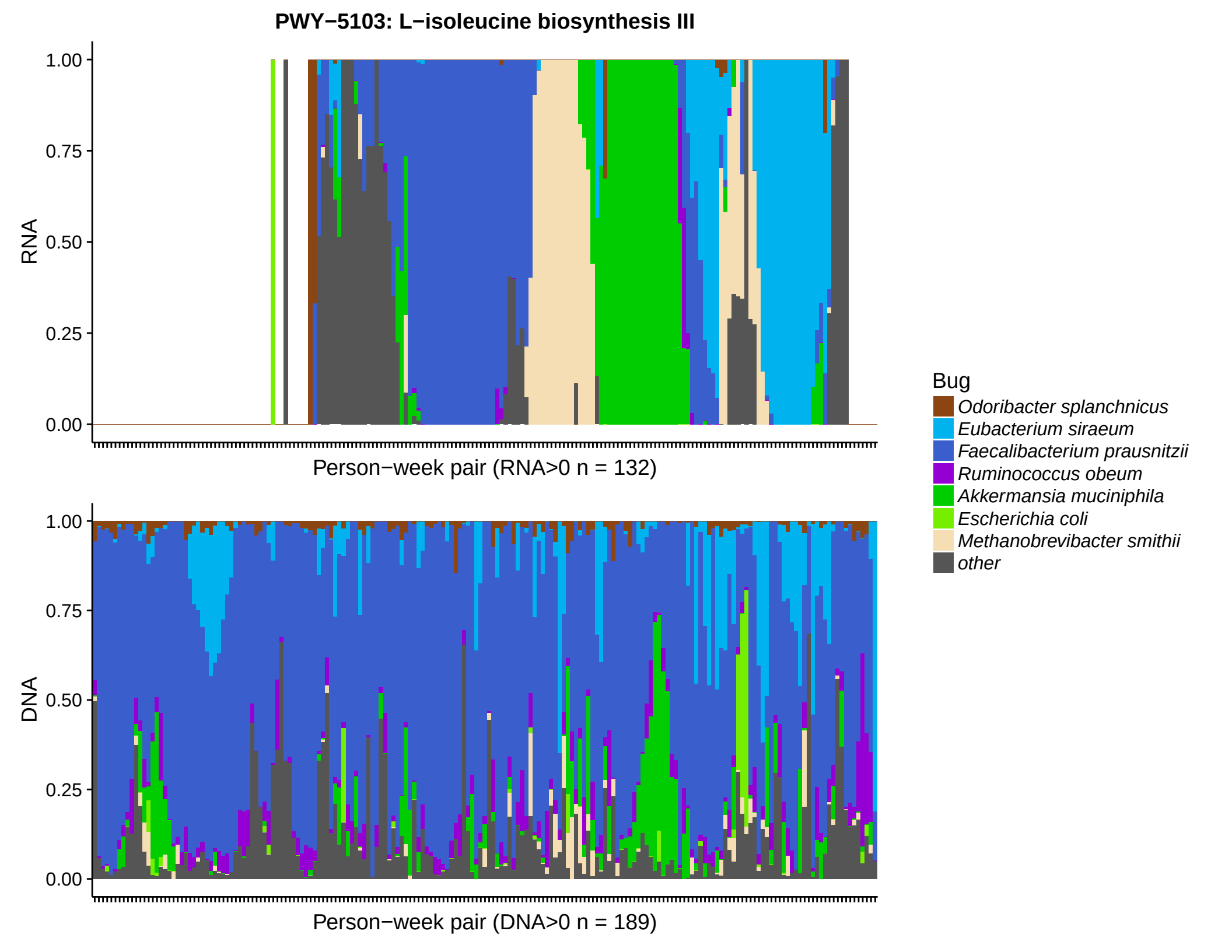

PWY−6317: galactose degradation I (Leloir pathway)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 127)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
other

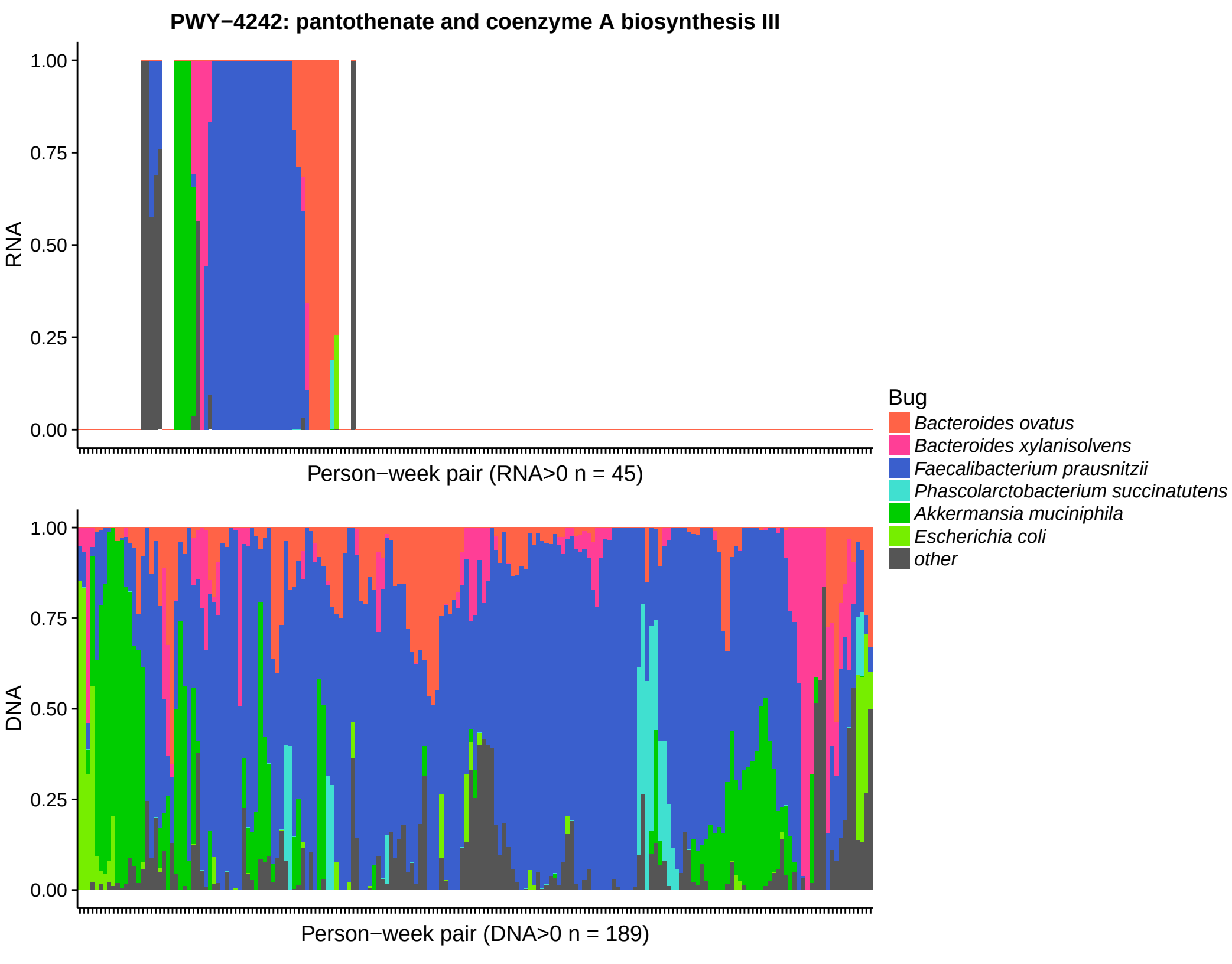
BRANCHED−CHAIN−AA−SYN−PWY: superpathway of branched amino acid biosynthesis

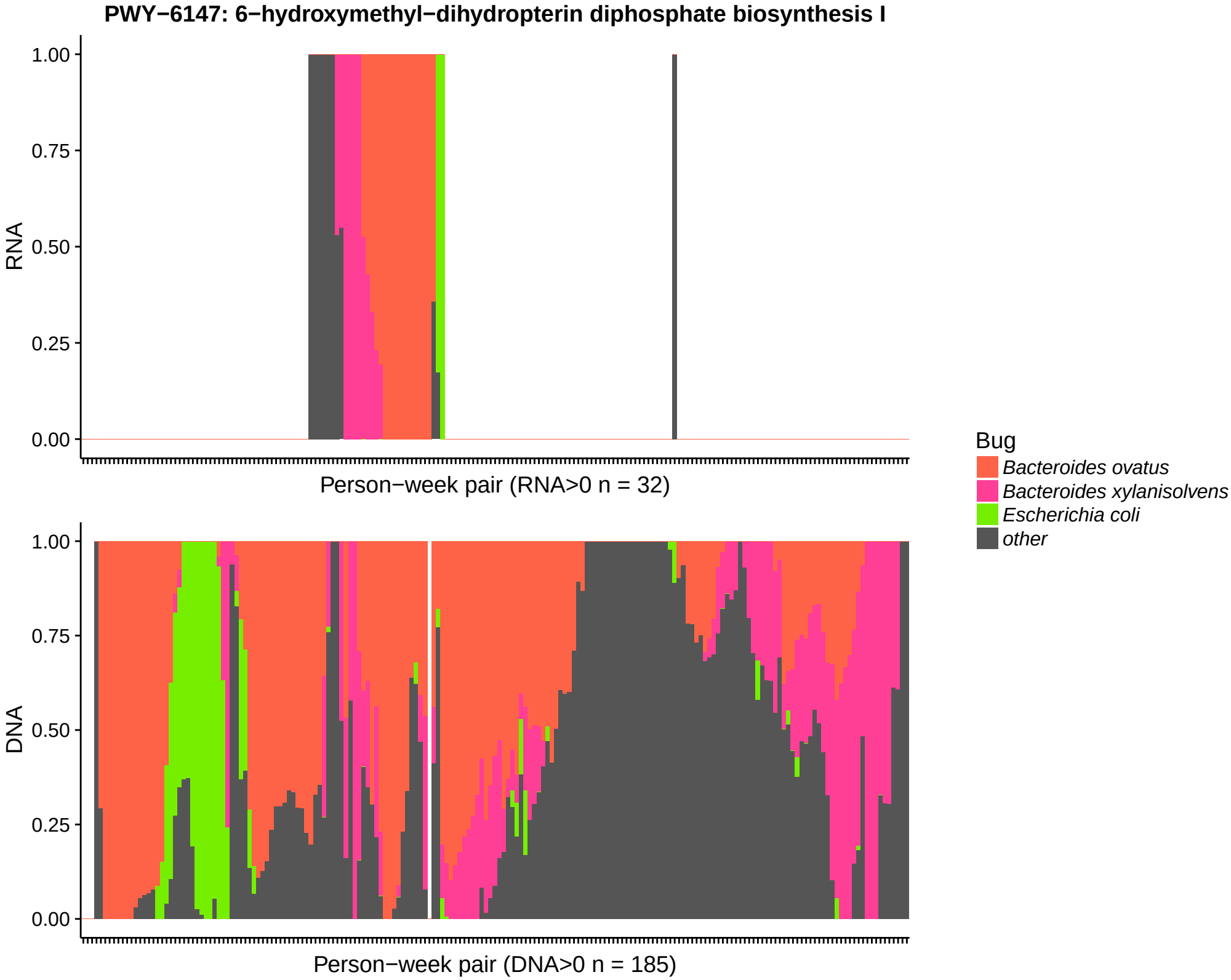


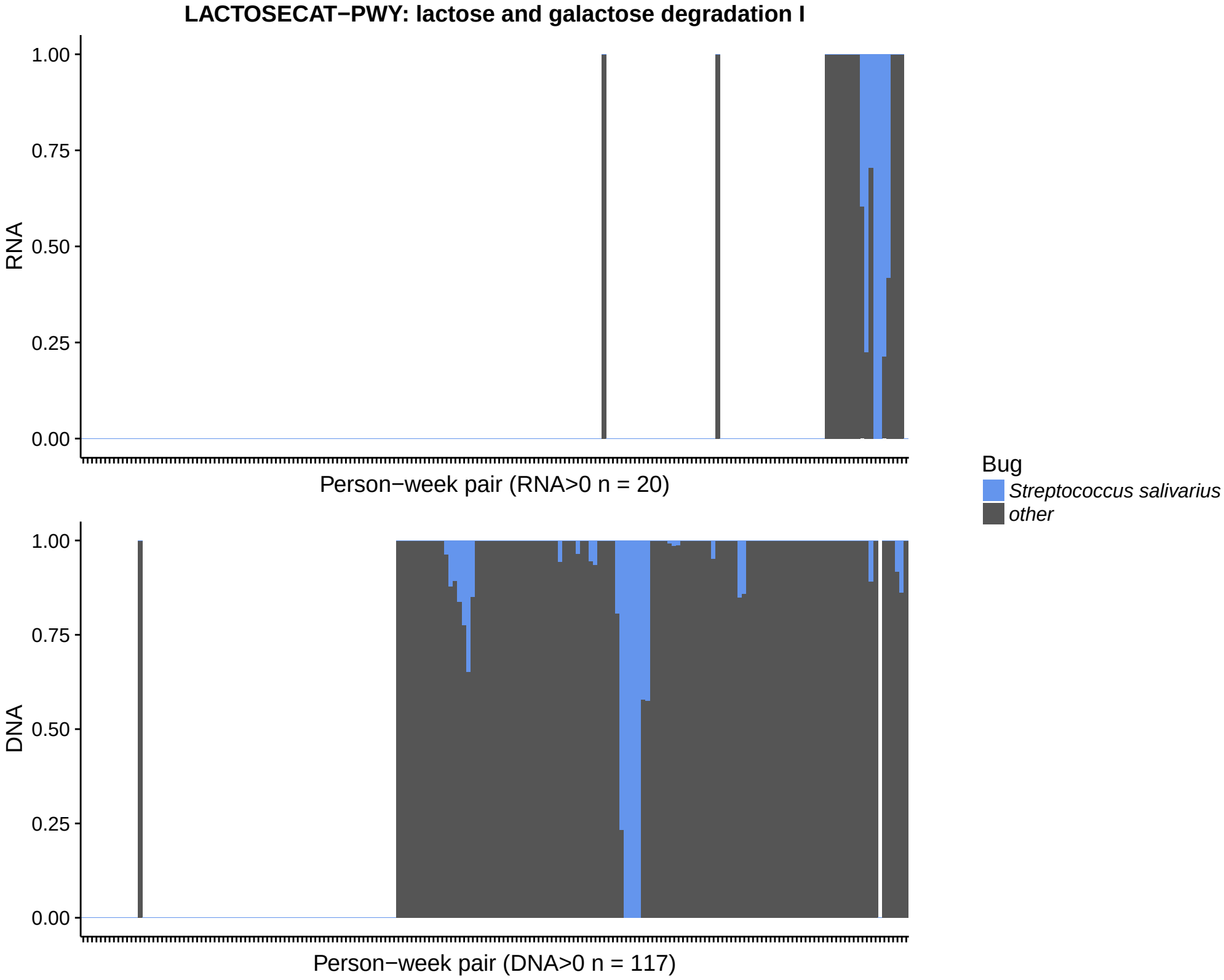

THRESYN−PWY: superpathway of L−threonine biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 96)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Faecalibacterium prausnitzii
Ruminococcus torques
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Rothia mucilaginosa
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Methanobrevibacter smithii
other

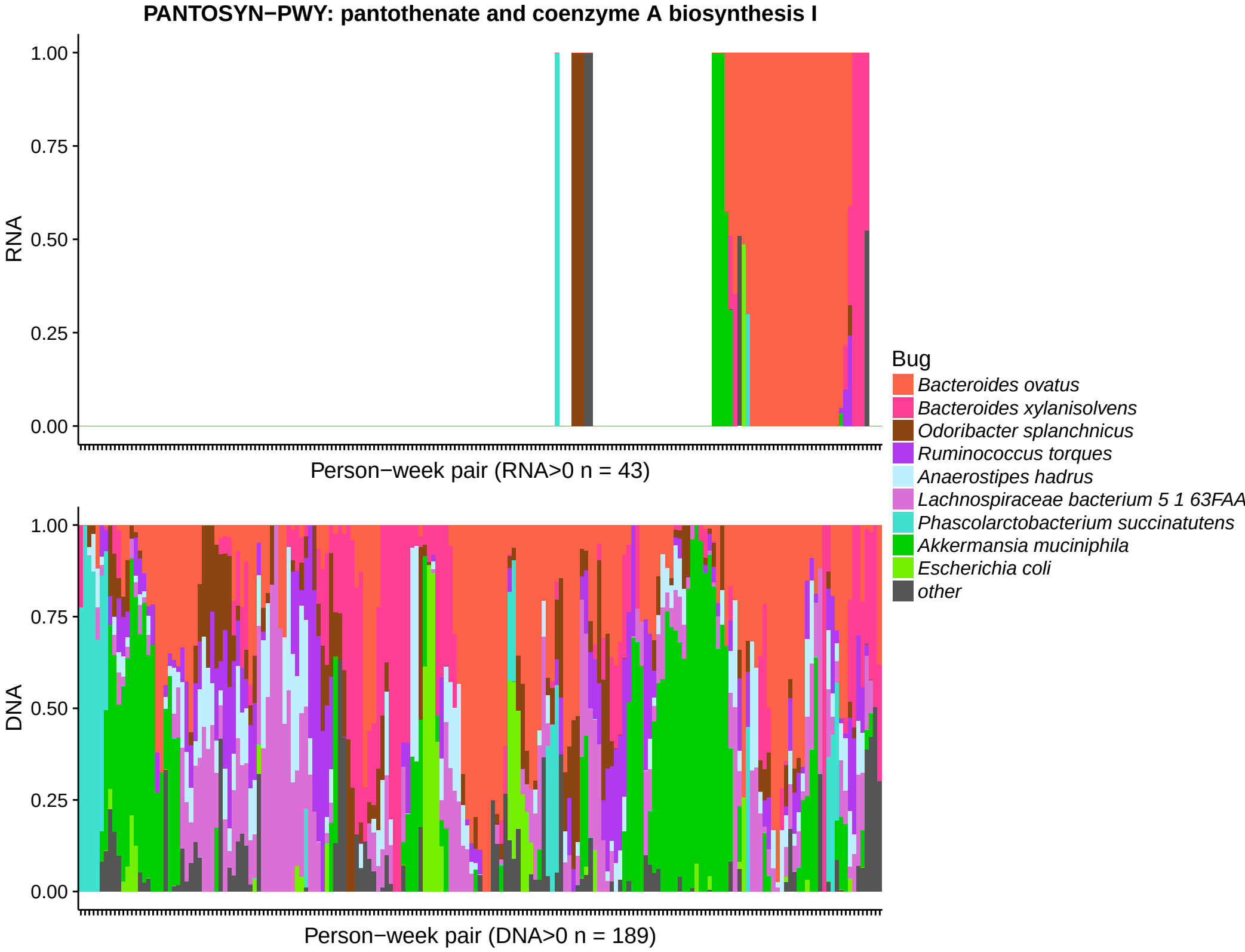

ILEUSYN−PWY: L−isoleucine biosynthesis I (from threonine)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 132)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Odoribacter splanchnicus
Eubacterium siraeum
Faecalibacterium prausnitzii
Ruminococcus torques
Ruminococcus obeum
Akkermansia muciniphila
Escherichia coli
Methanobrevibacter smithii
other

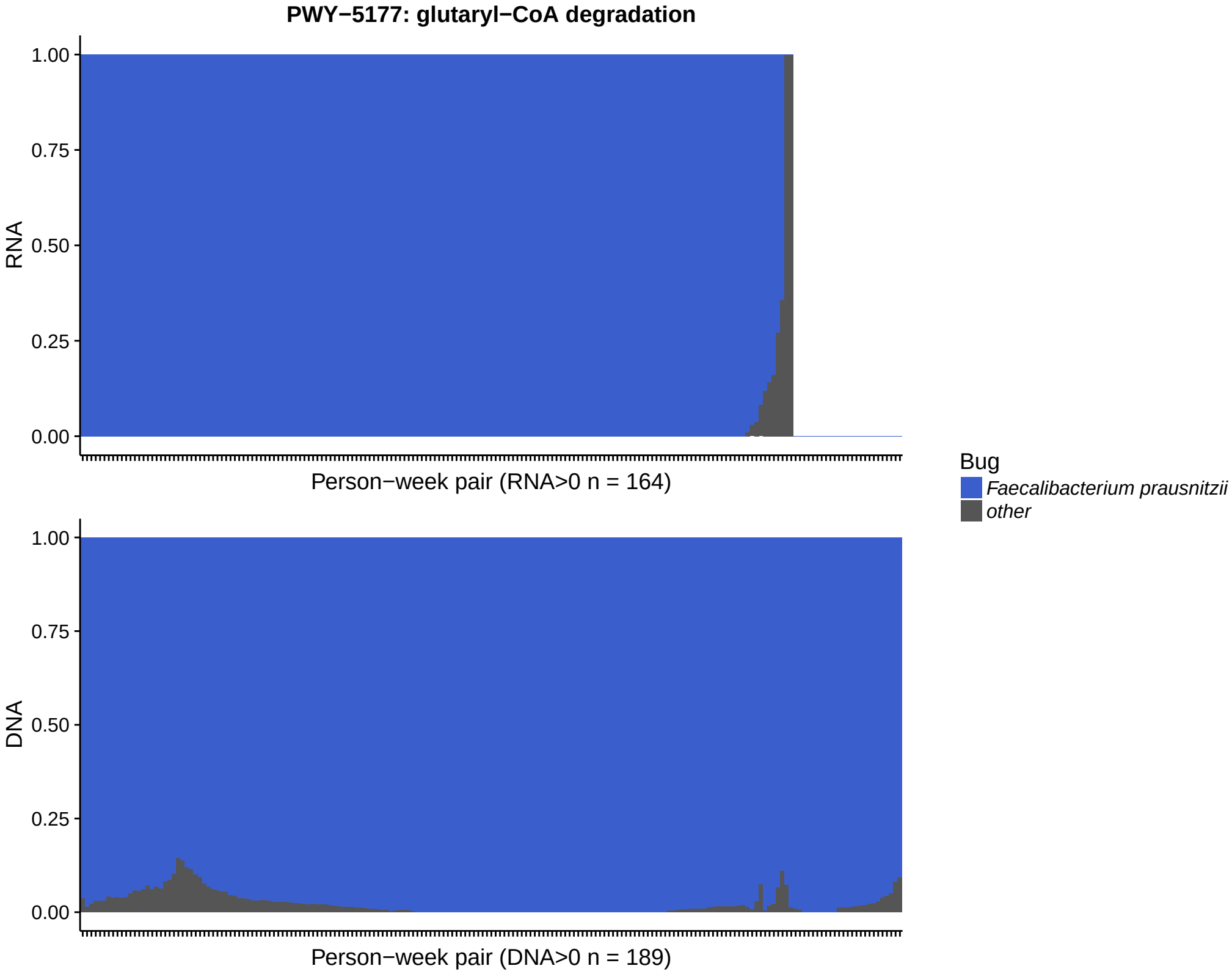

PWY−5103: L−isoleucine biosynthesis III
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 132)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Odoribacter splanchnicus
Eubacterium siraeum
Faecalibacterium prausnitzii
Ruminococcus obeum
Akkermansia muciniphila
Escherichia coli
Methanobrevibacter smithii
other

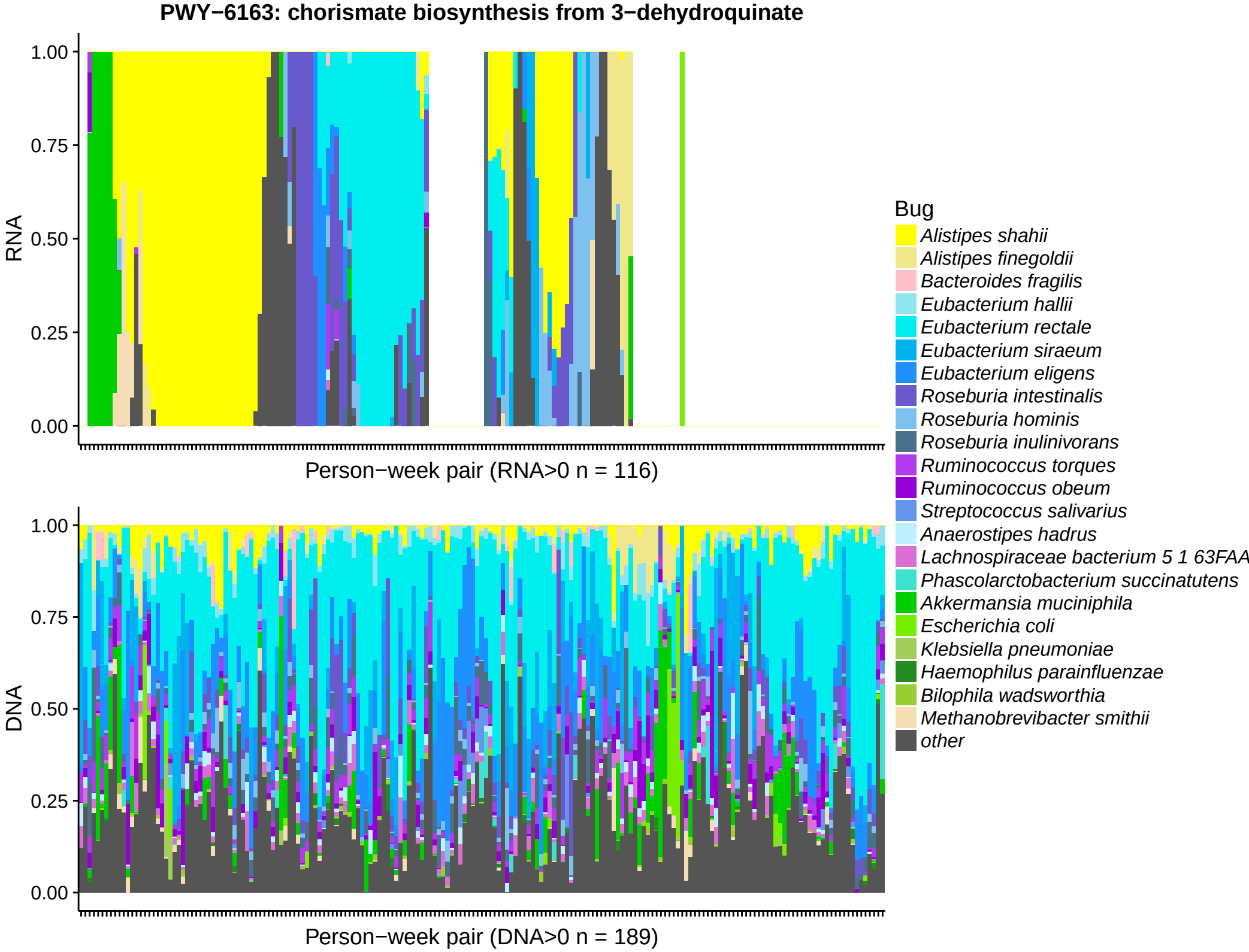

PWY−4242: pantothenate and coenzyme A biosynthesis III
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 45)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides ovatus
Bacteroides xylanisolvens
Faecalibacterium prausnitzii
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
other


PWY−6147: 6−hydroxymethyl−dihydropterin diphosphate biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 32)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 185)
Bug
Bacteroides ovatus
Bacteroides xylanisolvens
Escherichia coli
other

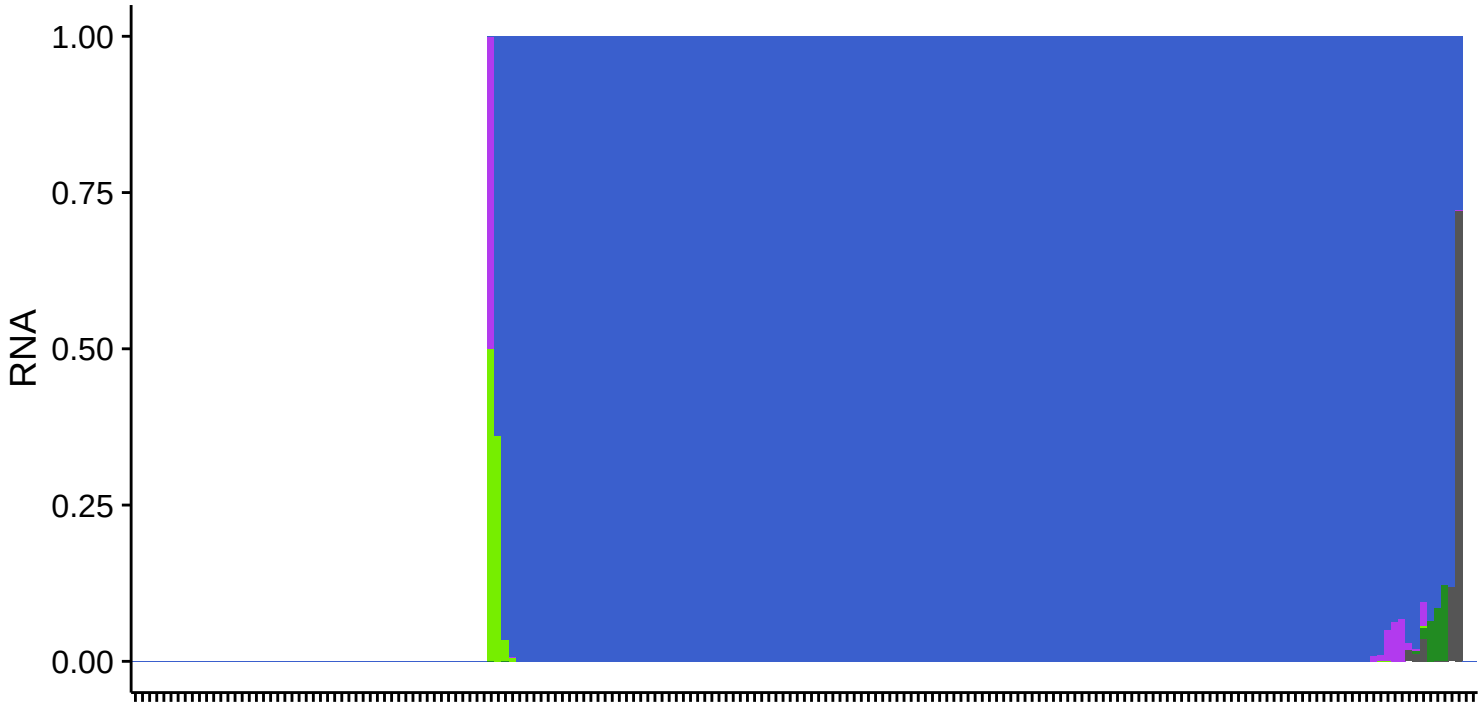

LACTOSECAT−PWY: lactose and galactose degradation I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 20)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 117)
Bug
Streptococcus salivarius
other

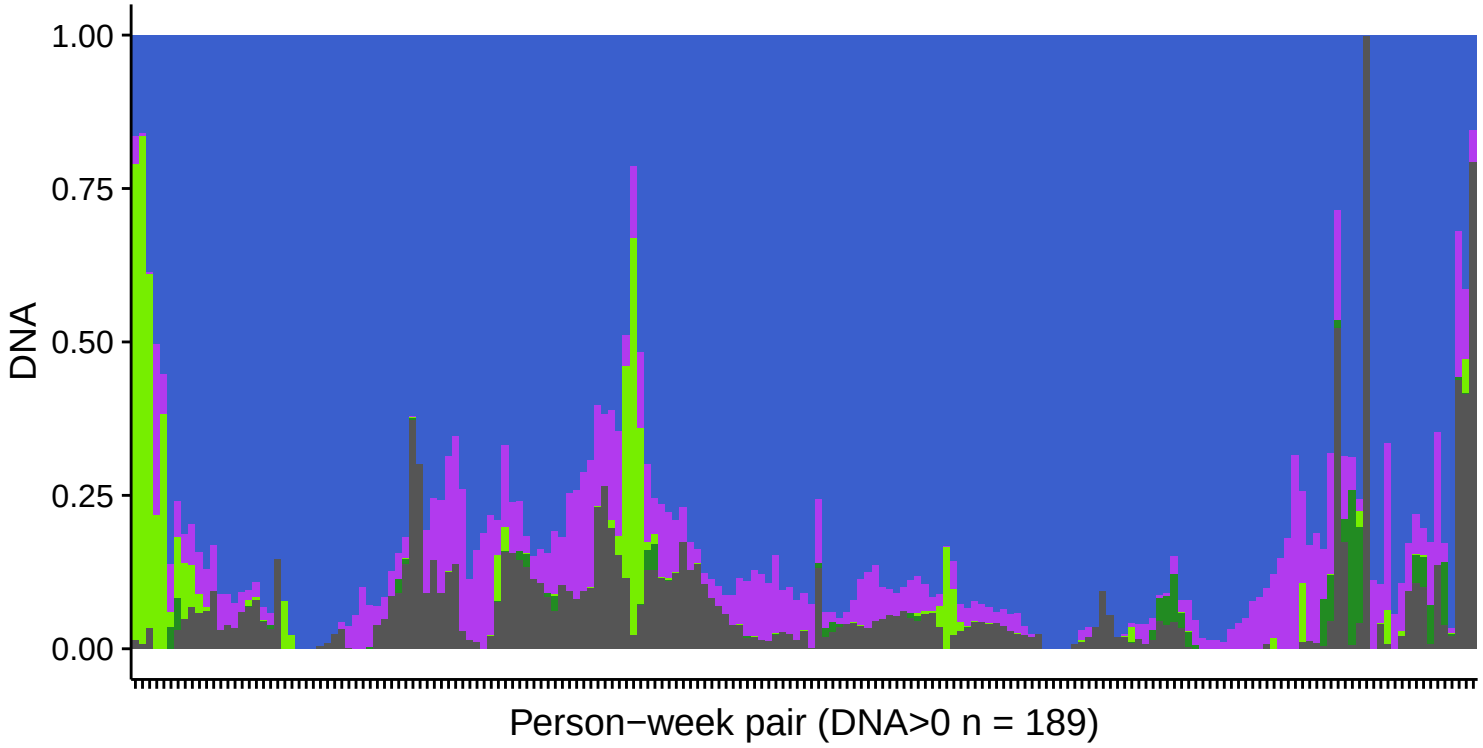

PANTOSYN−PWY: pantothenate and coenzyme A biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 43)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides ovatus
Bacteroides xylanisolvens
Odoribacter splanchnicus
Ruminococcus torques
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
other

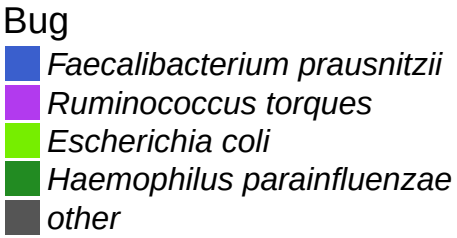

PWY−5177: glutaryl−CoA degradation
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 164)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Faecalibacterium prausnitzii
other

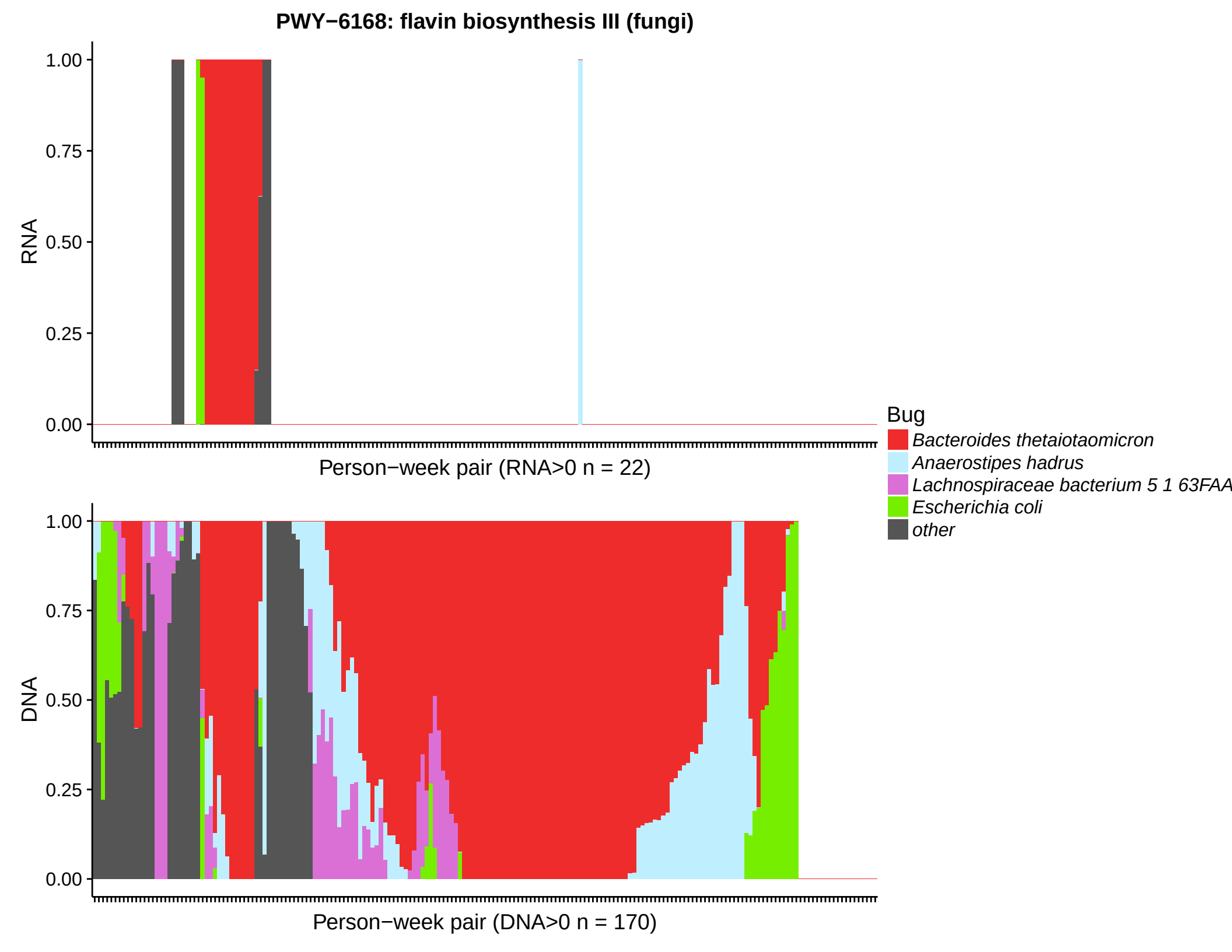

PWY−6163: chorismate biosynthesis from 3−dehydroquinate
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 116)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes shahii
Alistipes finegoldii
Bacteroides fragilis
Eubacterium hallii
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Methanobrevibacter smithii
other

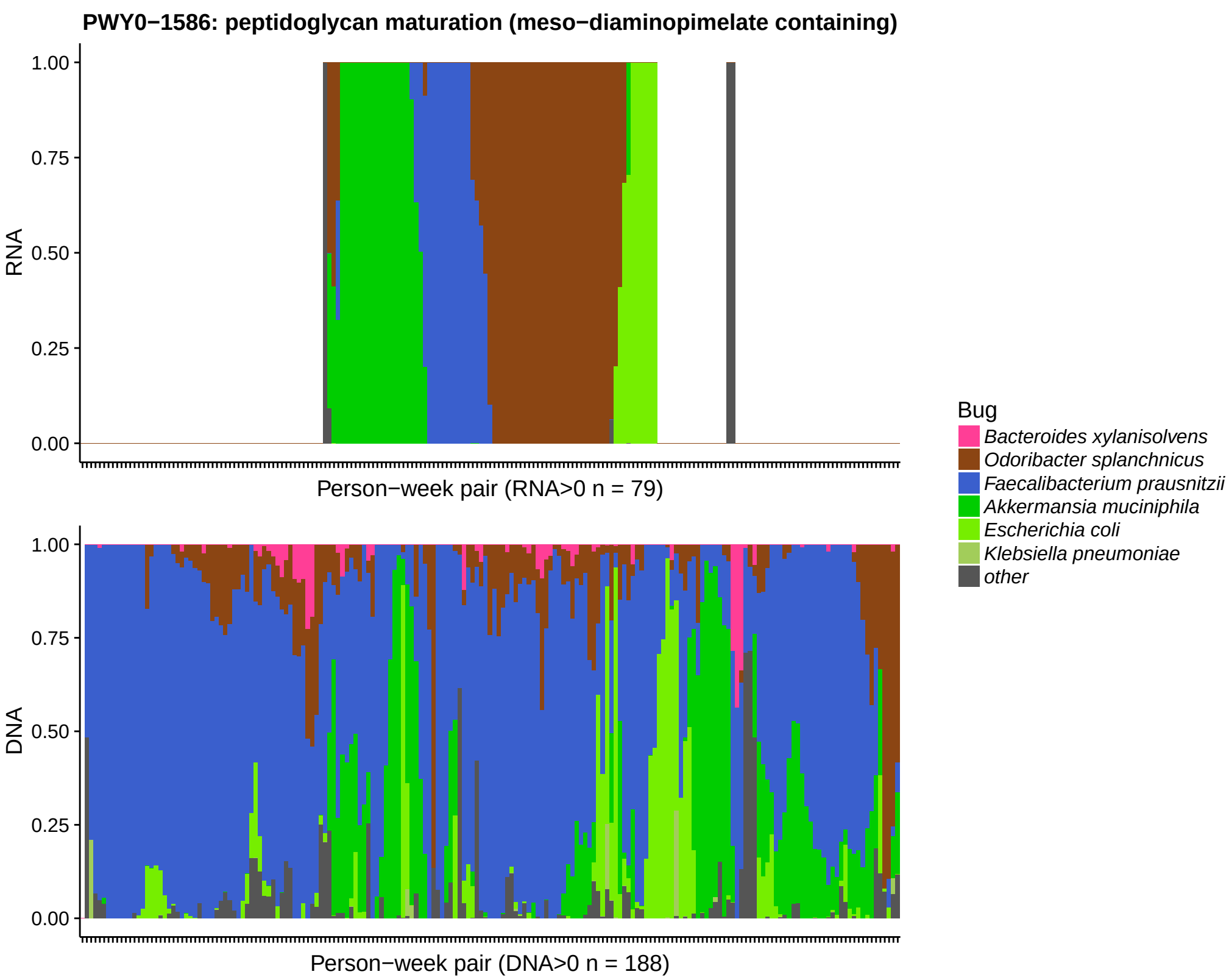
T−PWY: superpathway of N−acetylglucosamine, N−acetylmannosamine and N−acetylneuraminate degradation

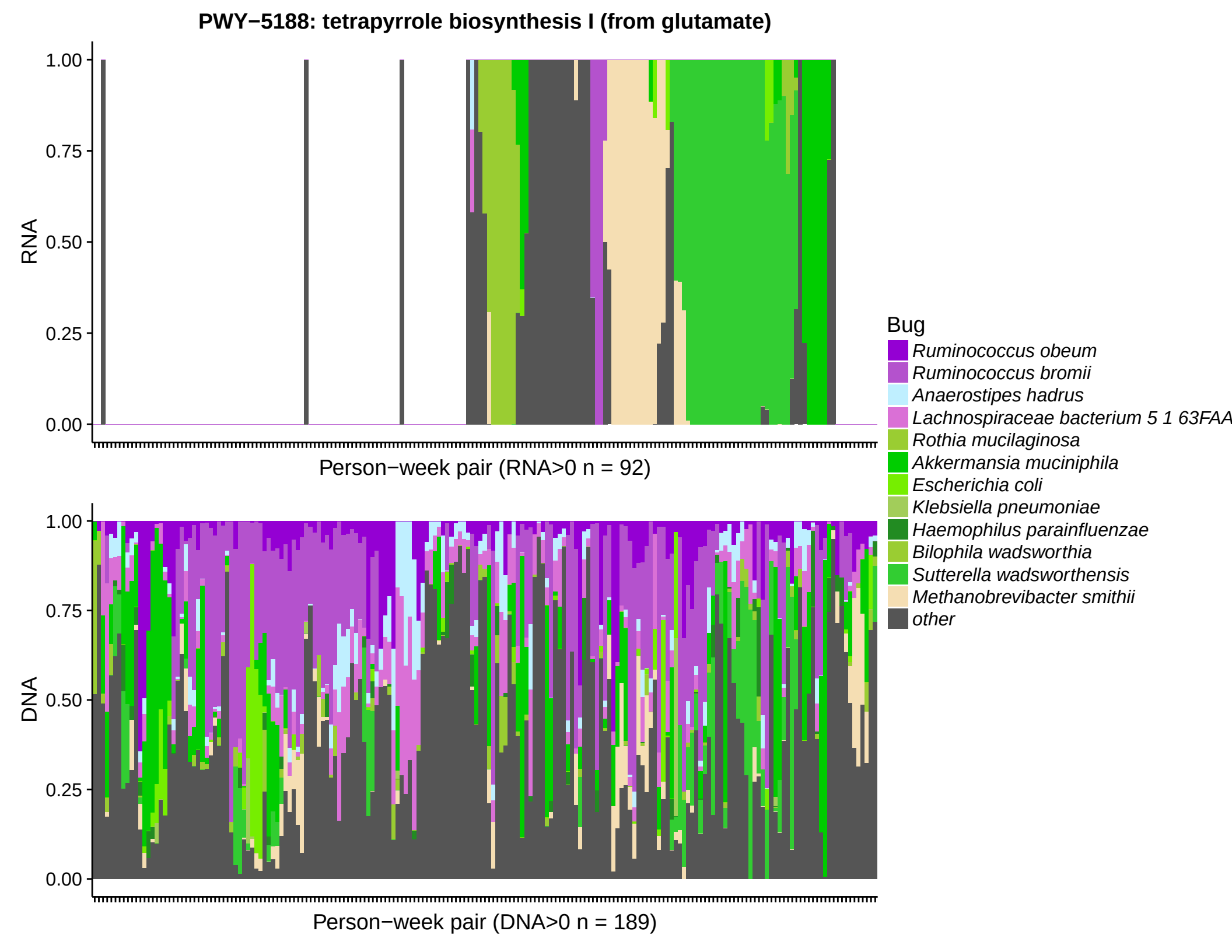


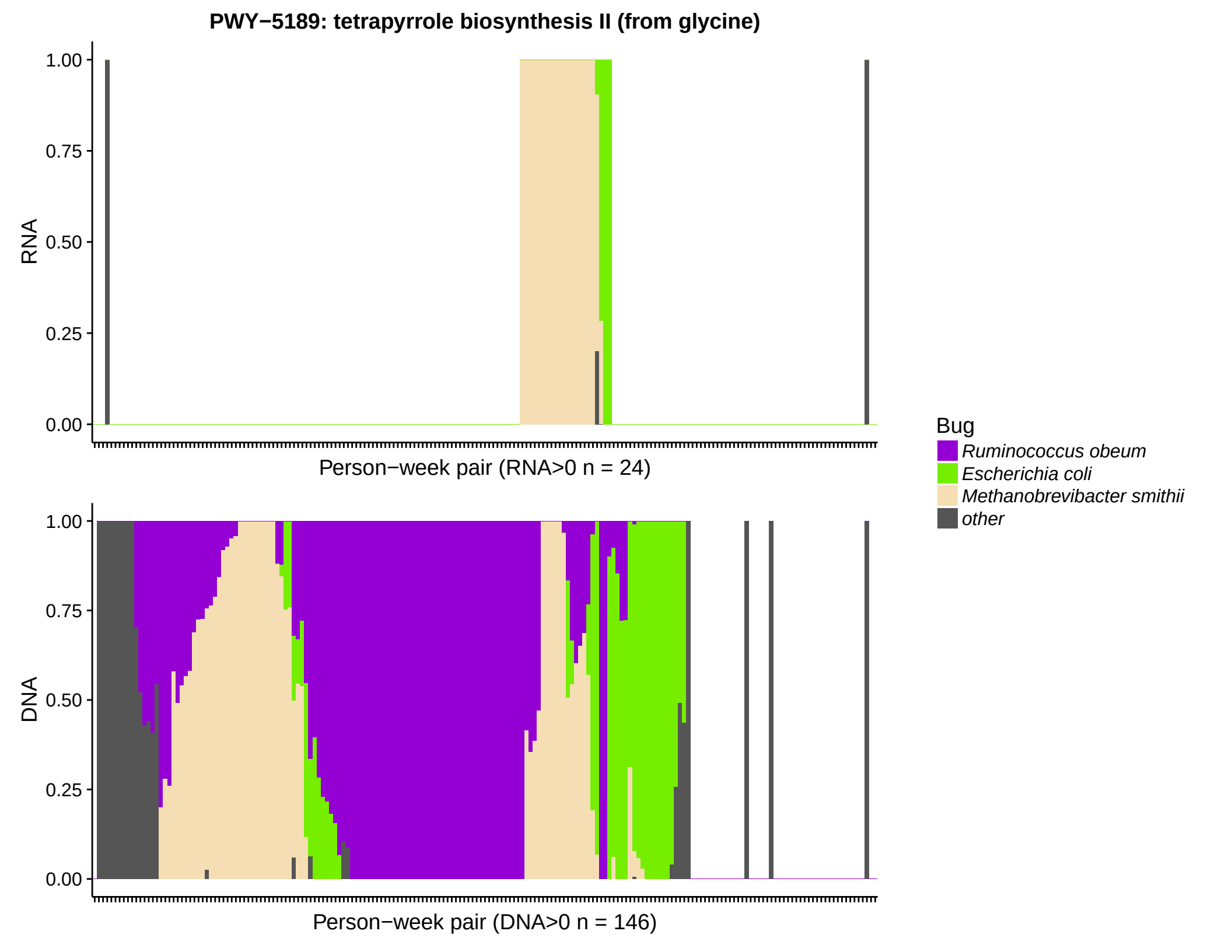


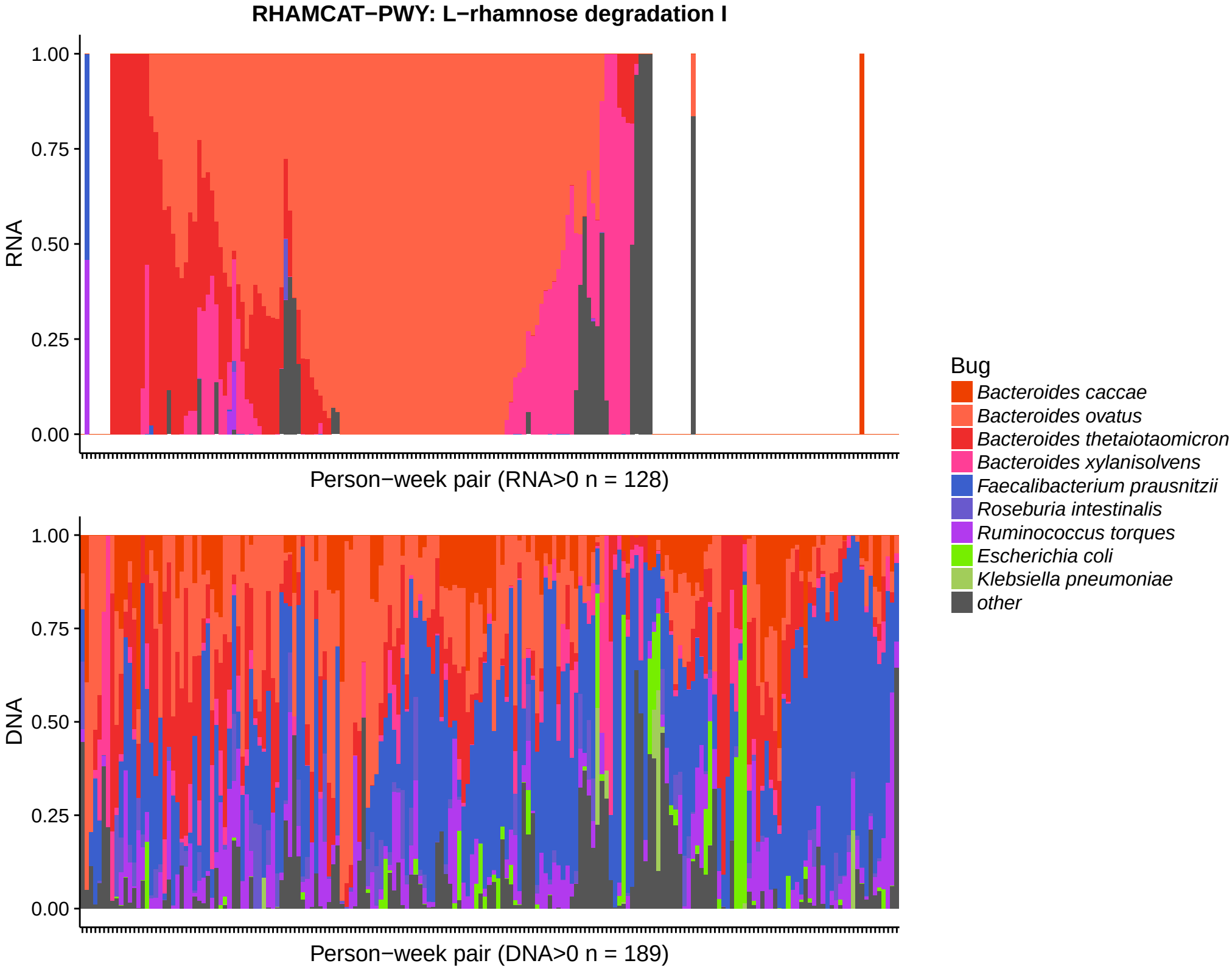


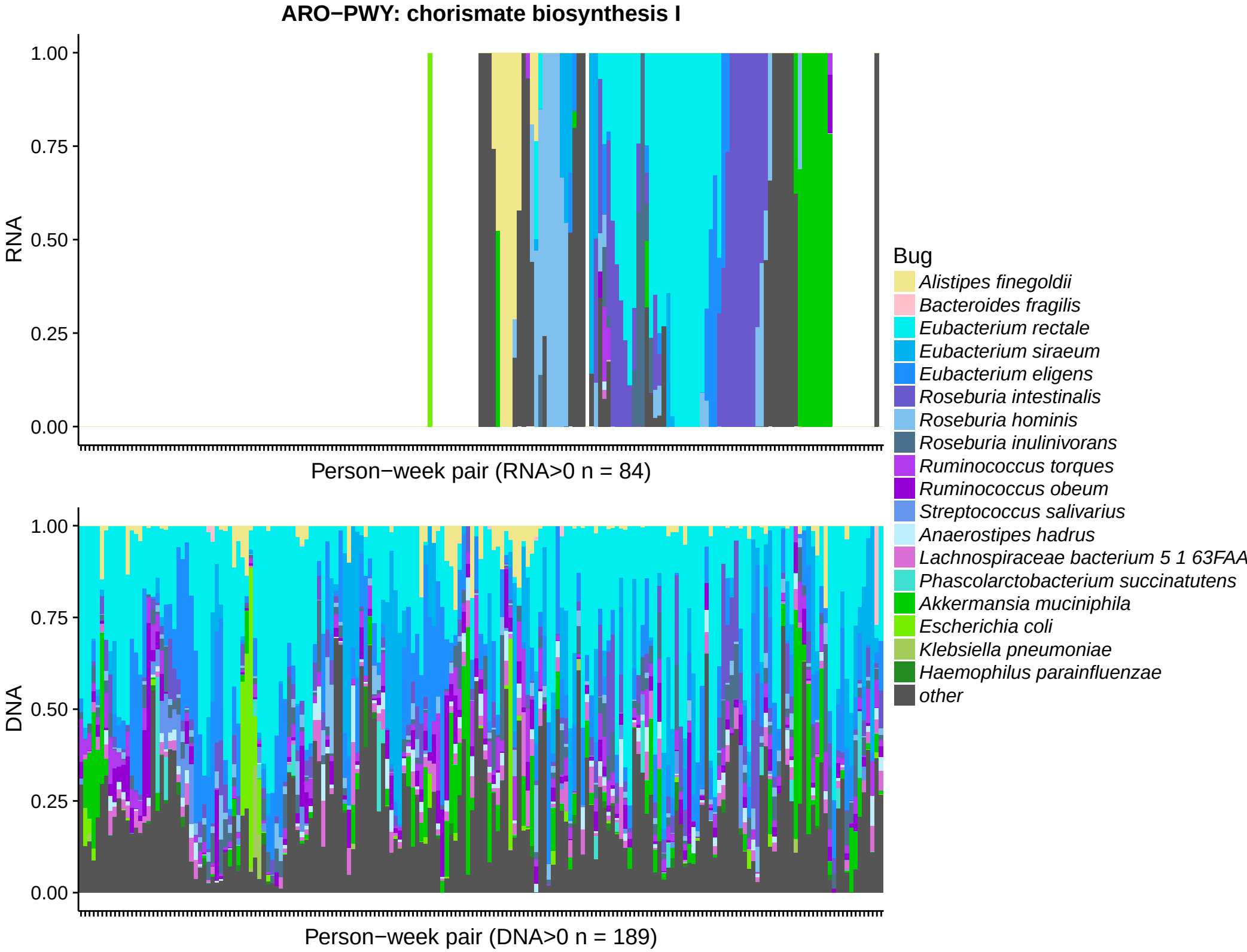

PWY−6168: flavin biosynthesis III (fungi)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 22)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 170)
Bug
Bacteroides thetaiotaomicron
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Escherichia coli
other

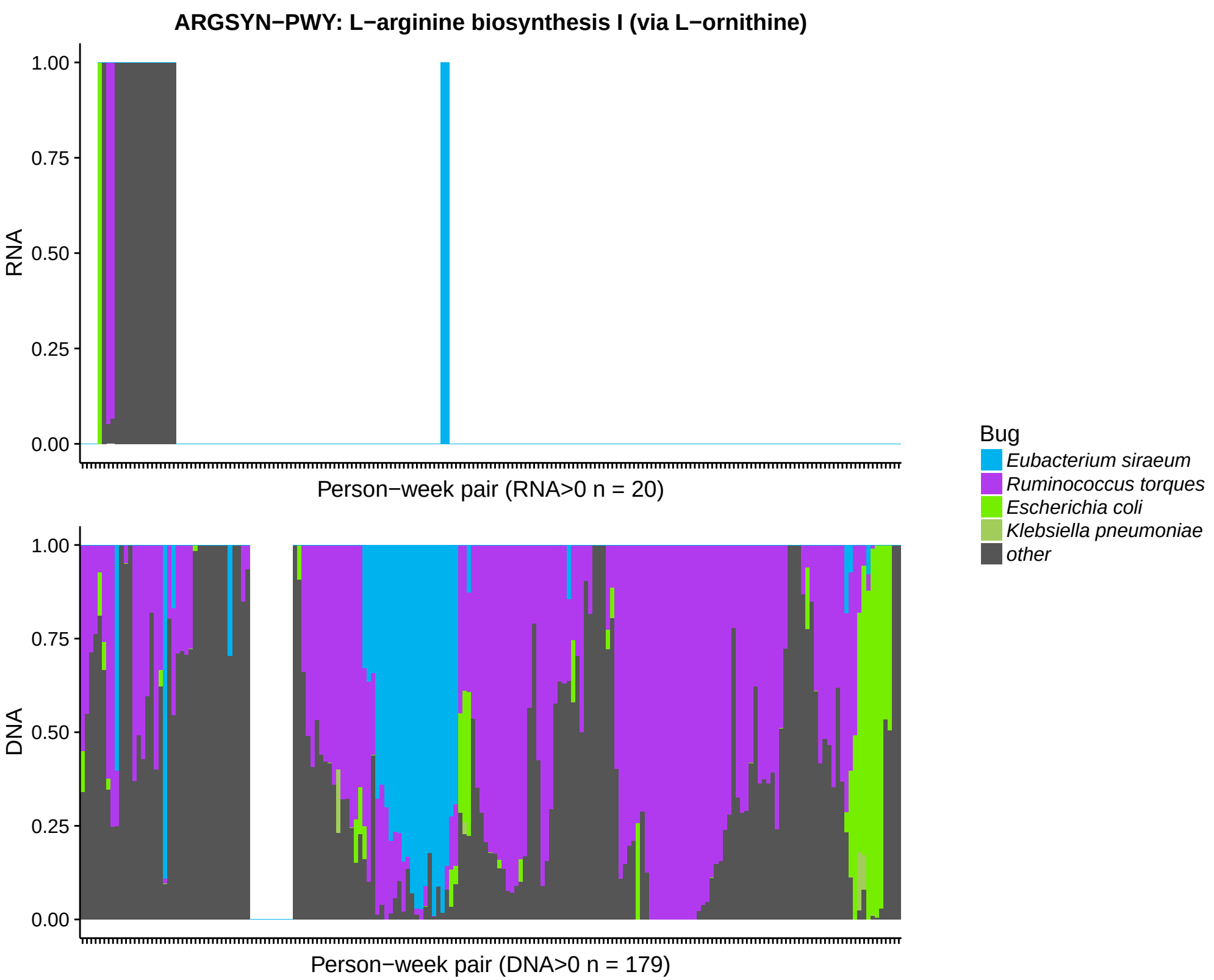

PWY0−1586: peptidoglycan maturation (meso−diaminopimelate containing)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 79)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 188)
Bug
Bacteroides xylanisolvens
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
other

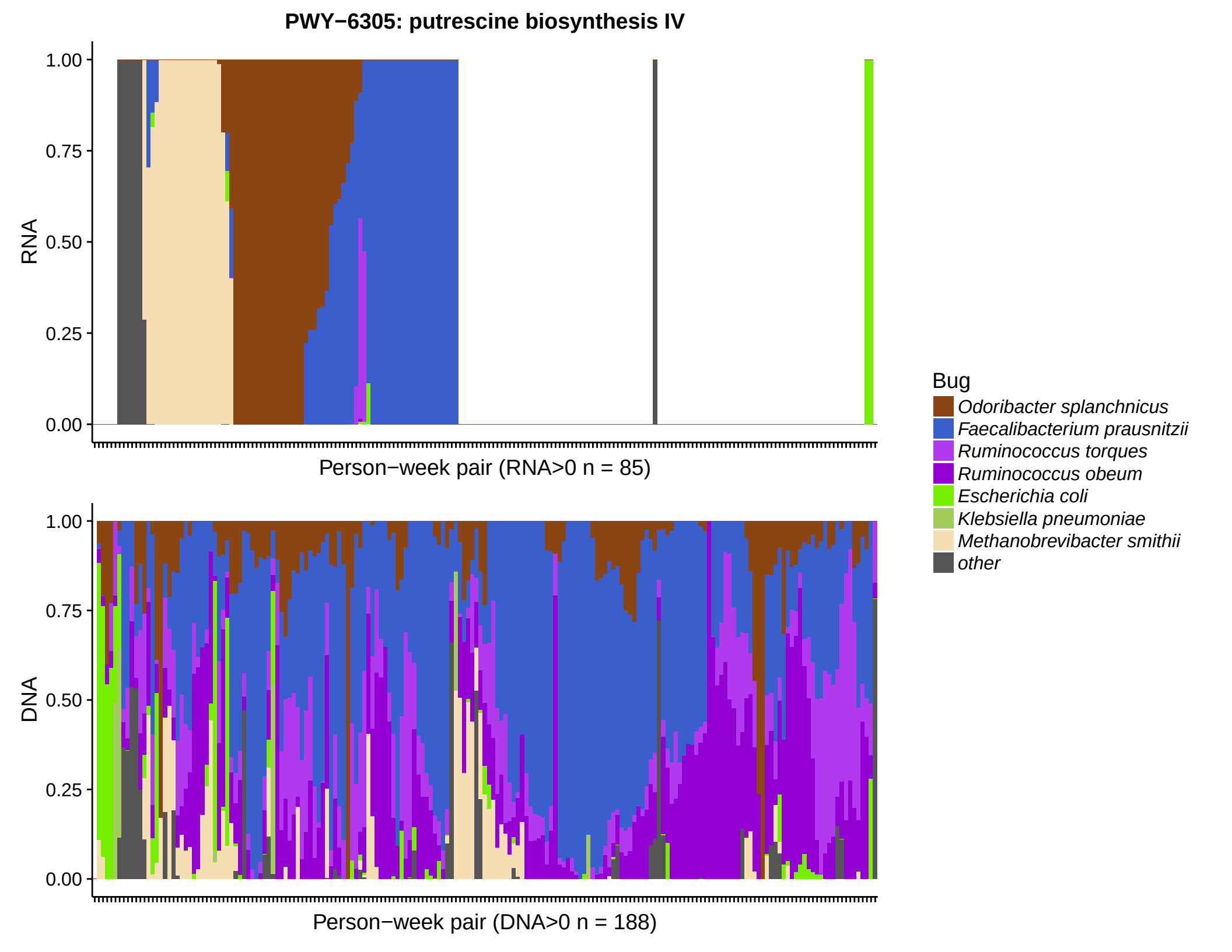

PWY−5188: tetrapyrrole biosynthesis I (from glutamate)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 92)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Ruminococcus obeum
Ruminococcus bromii
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Rothia mucilaginosa
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Bilophila wadsworthia
Sutterella wadsworthensis
Methanobrevibacter smithii
other

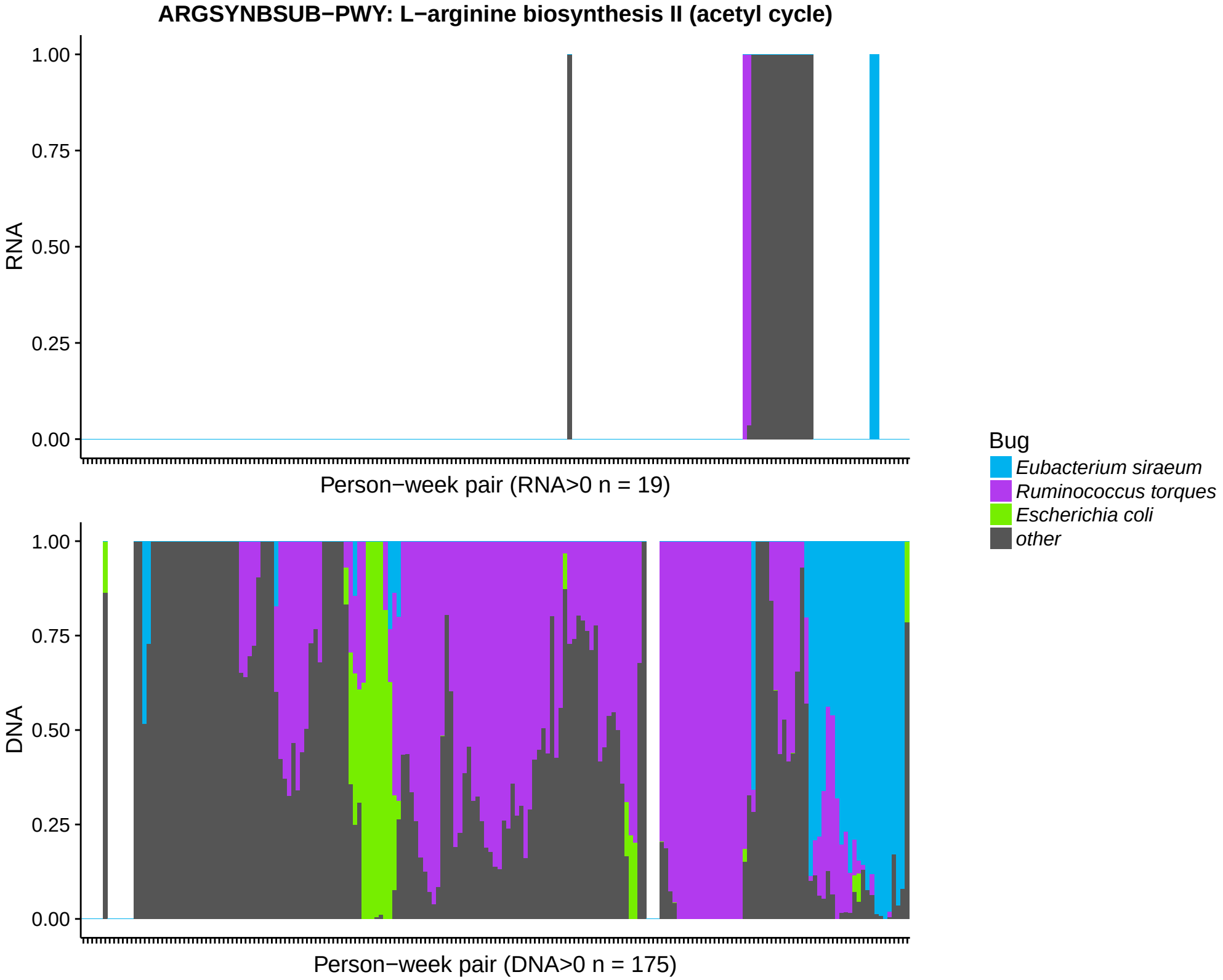

PWY−5189: tetrapyrrole biosynthesis II (from glycine)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 24)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 146)
Bug
Ruminococcus obeum
Escherichia coli
Methanobrevibacter smithii
other

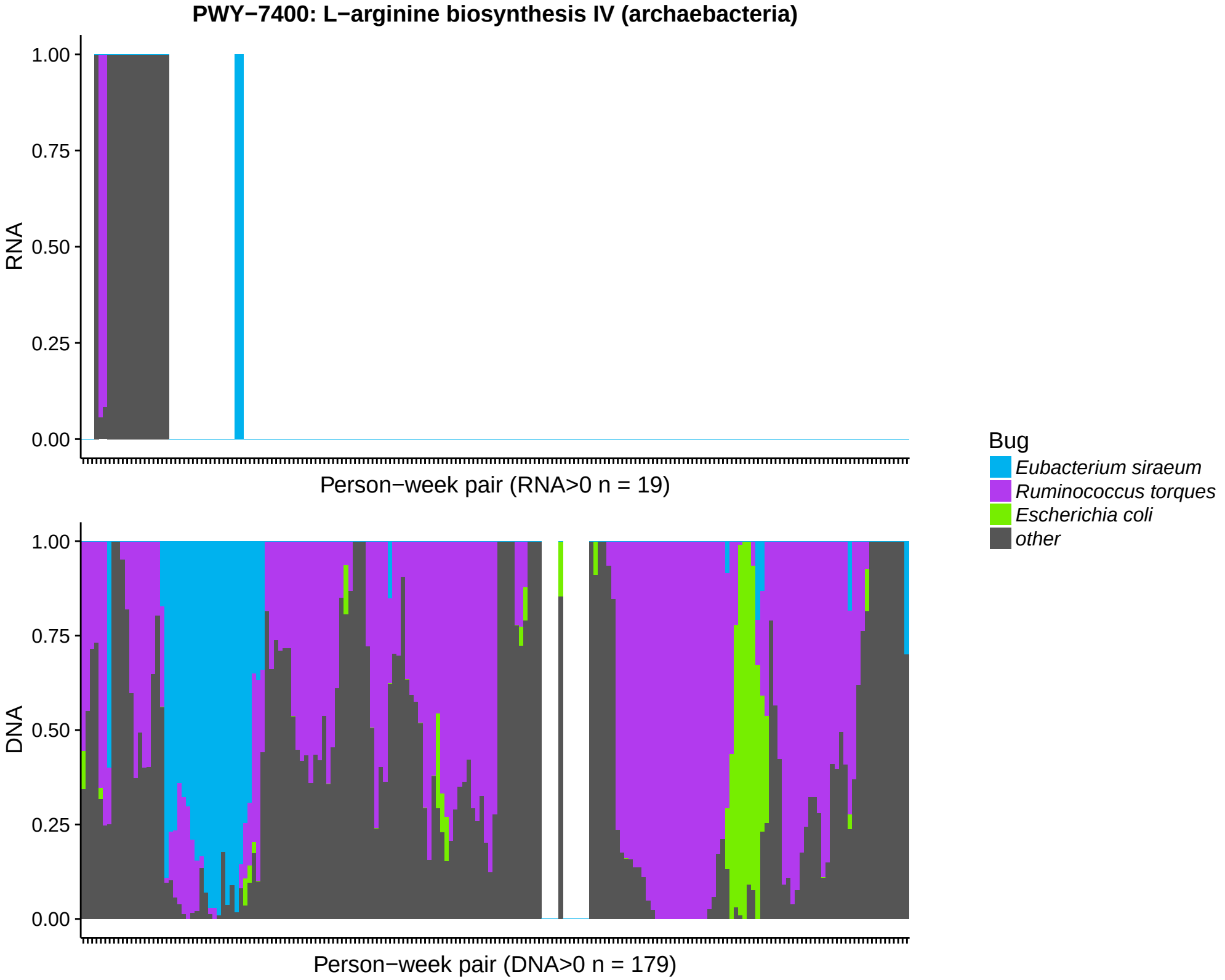

RHAMCAT−PWY: L−rhamnose degradation I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 128)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides caccae
Bacteroides ovatus
Bacteroides thetaiotaomicron
Bacteroides xylanisolvens
Faecalibacterium prausnitzii
Roseburia intestinalis
Ruminococcus torques
Escherichia coli
Klebsiella pneumoniae
other

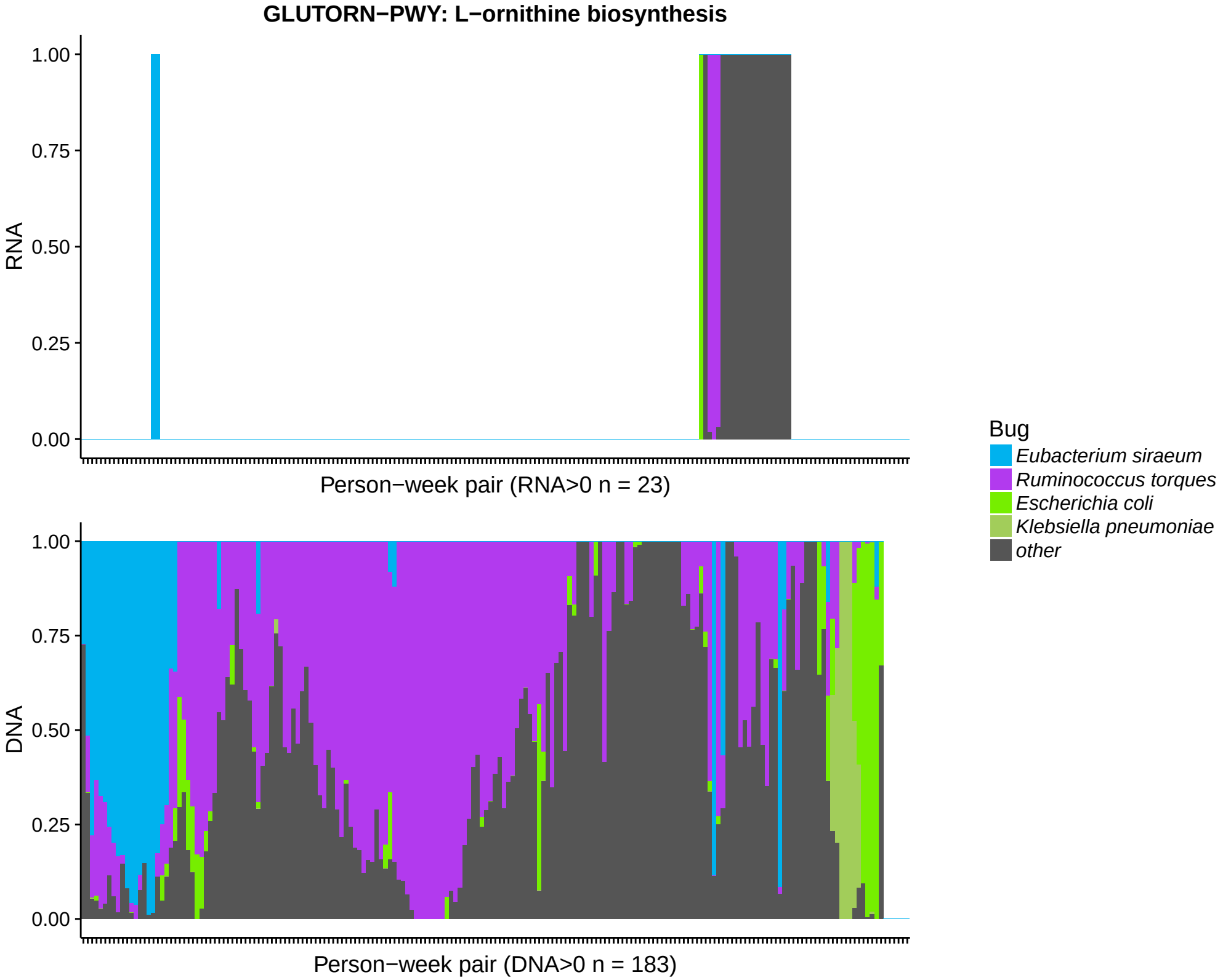

ARO−PWY: chorismate biosynthesis I
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 84)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Alistipes finegoldii
Bacteroides fragilis
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other

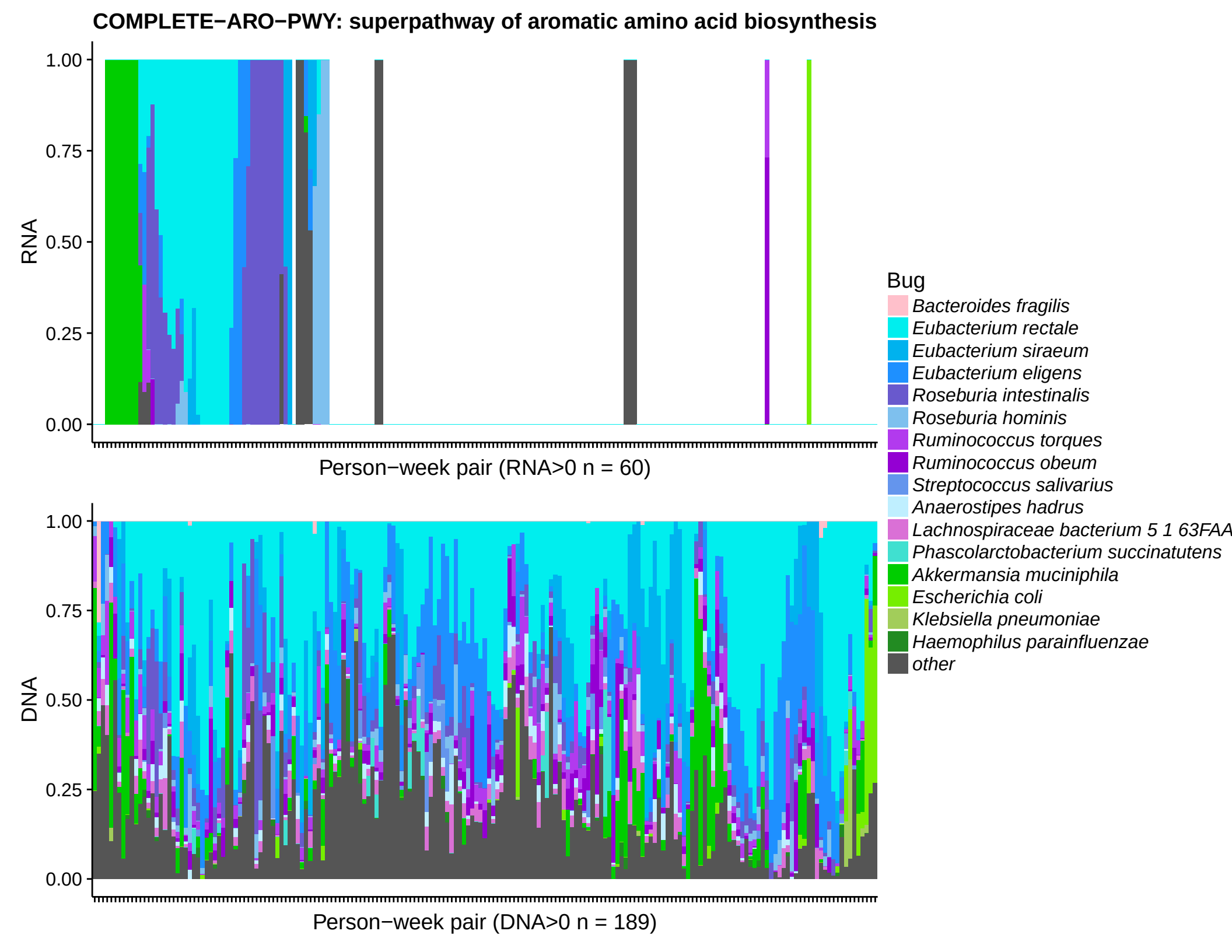

ARGSYN−PWY: L−arginine biosynthesis I (via L−ornithine)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 20)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 179)
Bug
Eubacterium siraeum
Ruminococcus torques
Escherichia coli
Klebsiella pneumoniae
other

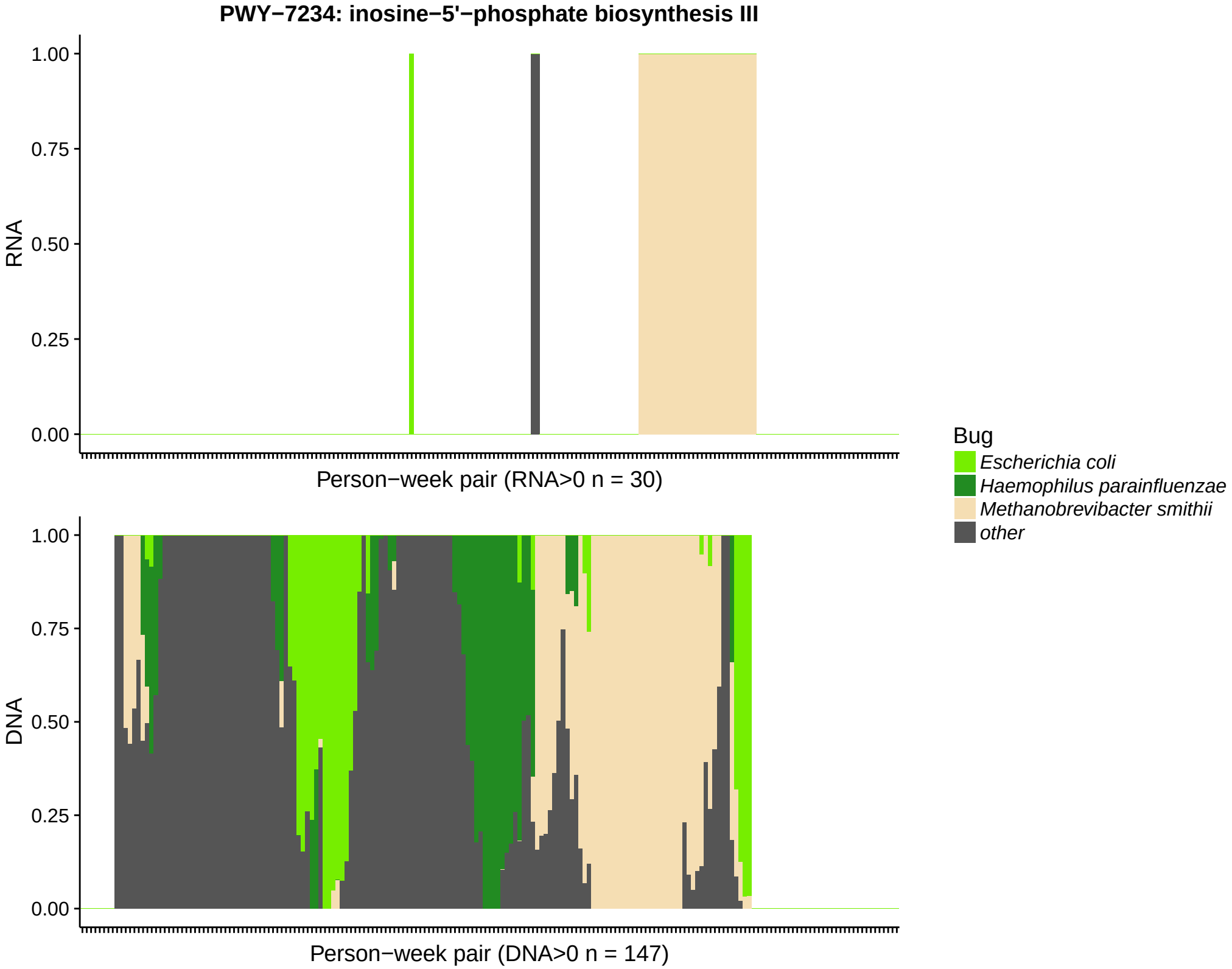

PWY−6305: putrescine biosynthesis IV
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 85)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 188)
Bug
Odoribacter splanchnicus
Faecalibacterium prausnitzii
Ruminococcus torques
Ruminococcus obeum
Escherichia coli
Klebsiella pneumoniae
Methanobrevibacter smithii
other

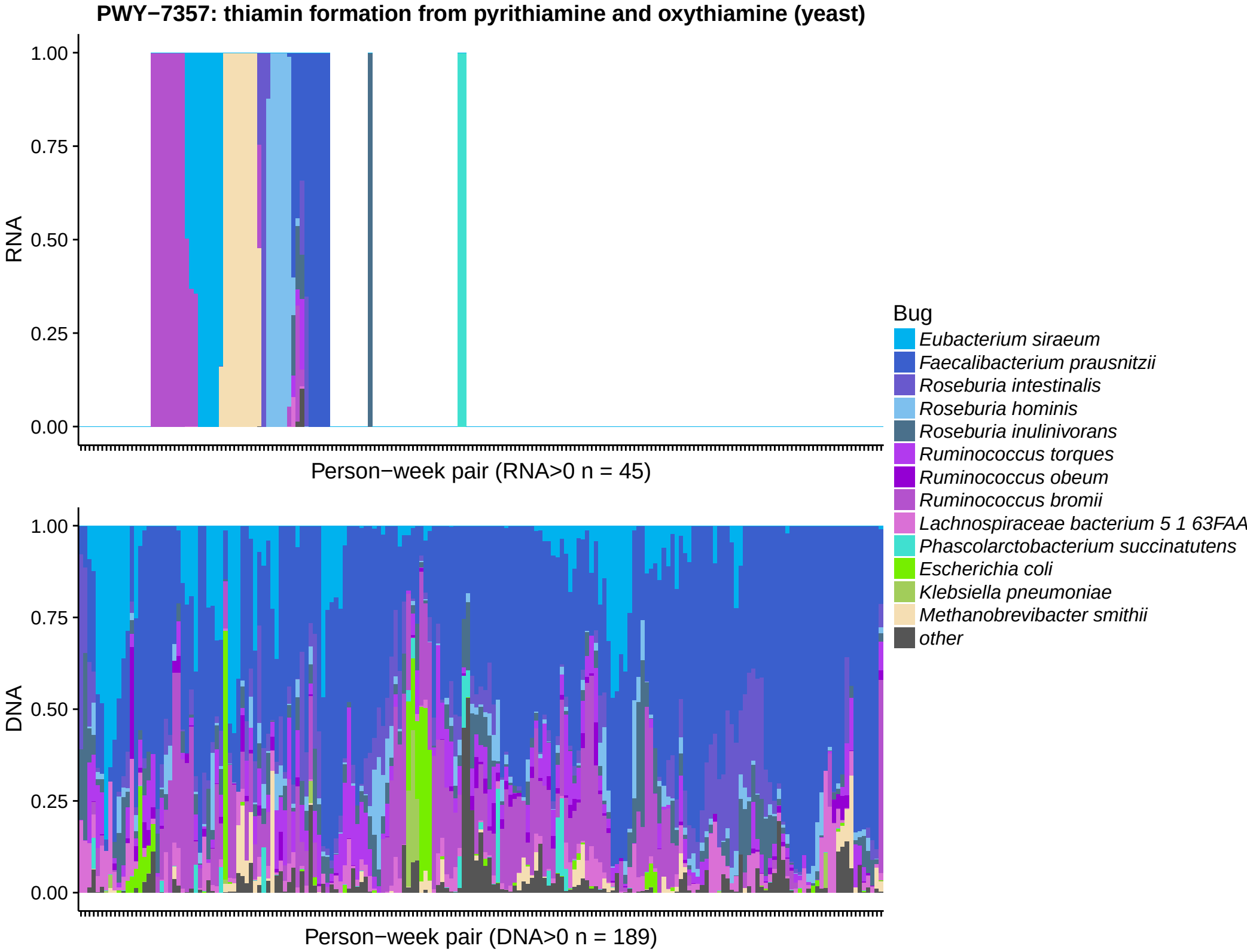

ARGSYNBSUB−PWY: L−arginine biosynthesis II (acetyl cycle)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 19)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 175)
Bug
Eubacterium siraeum
Ruminococcus torques
Escherichia coli
other

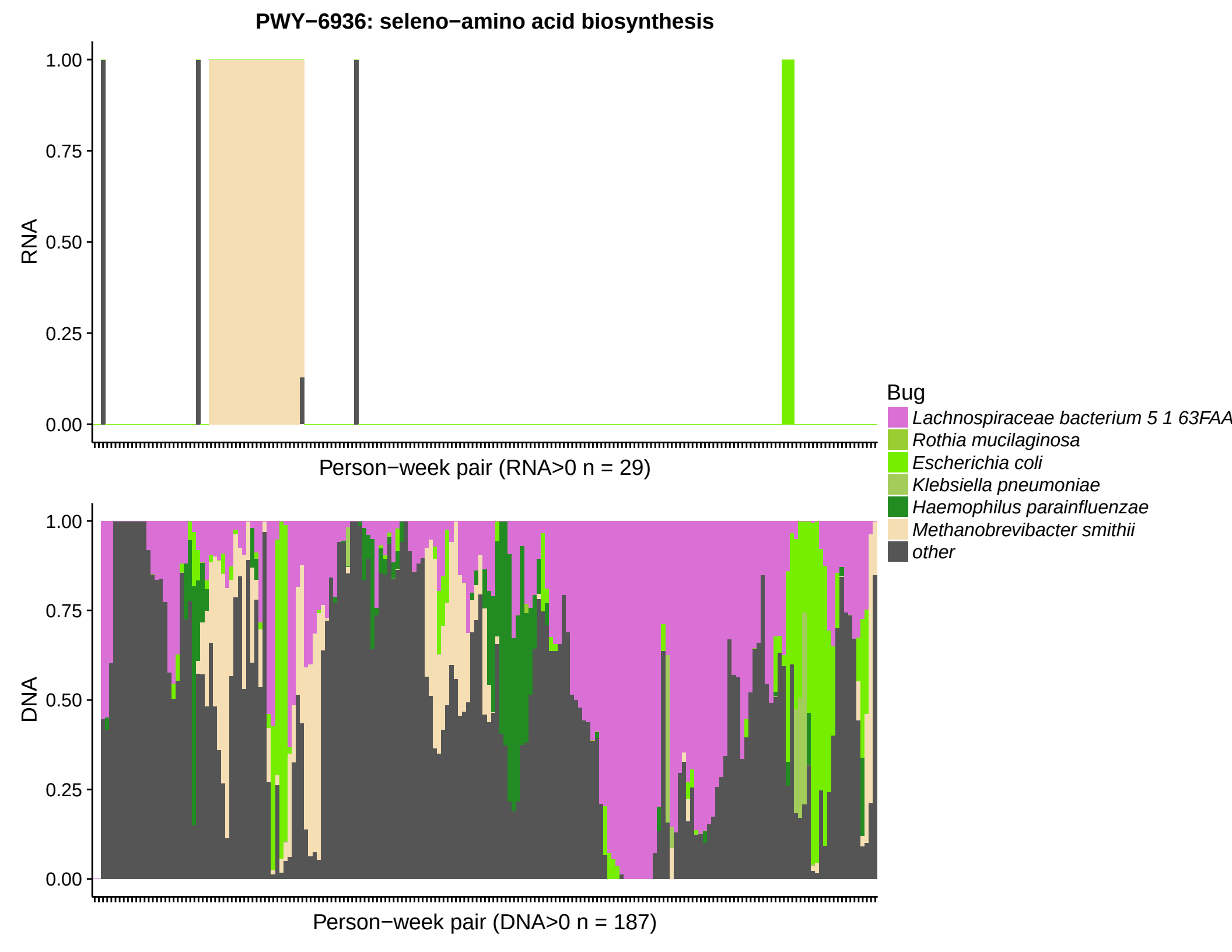

PWY−7400: L−arginine biosynthesis IV (archaebacteria)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 19)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 179)
Bug
Eubacterium siraeum
Ruminococcus torques
Escherichia coli
other


GLUTORN−PWY: L−ornithine biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 23)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 183)
Bug
Eubacterium siraeum
Ruminococcus torques
Escherichia coli
Klebsiella pneumoniae
other


COMPLETE−ARO−PWY: superpathway of aromatic amino acid biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 60)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Bacteroides fragilis
Eubacterium rectale
Eubacterium siraeum
Eubacterium eligens
Roseburia intestinalis
Roseburia hominis
Ruminococcus torques
Ruminococcus obeum
Streptococcus salivarius
Anaerostipes hadrus
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Akkermansia muciniphila
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
other


PWY−7234: inosine−5'−phosphate biosynthesis III
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 30)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 147)
Bug
Escherichia coli
Haemophilus parainfluenzae
Methanobrevibacter smithii
other


PWY−7357: thiamin formation from pyrithiamine and oxythiamine (yeast)
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 45)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 189)
Bug
Eubacterium siraeum
Faecalibacterium prausnitzii
Roseburia intestinalis
Roseburia hominis
Roseburia inulinivorans
Ruminococcus torques
Ruminococcus obeum
Ruminococcus bromii
Lachnospiraceae bacterium 5 1 63FAA
Phascolarctobacterium succinatutens
Escherichia coli
Klebsiella pneumoniae
Methanobrevibacter smithii
other


PWY−6936: seleno−amino acid biosynthesis
RNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (RNA>0 n = 29)
DNA
1.00
0.75
0.50
0.25
0.00
Person−week pair (DNA>0 n = 187)
Bug
Lachnospiraceae bacterium 5 1 63FAA
Rothia mucilaginosa
Escherichia coli
Klebsiella pneumoniae
Haemophilus parainfluenzae
Methanobrevibacter smithii
other