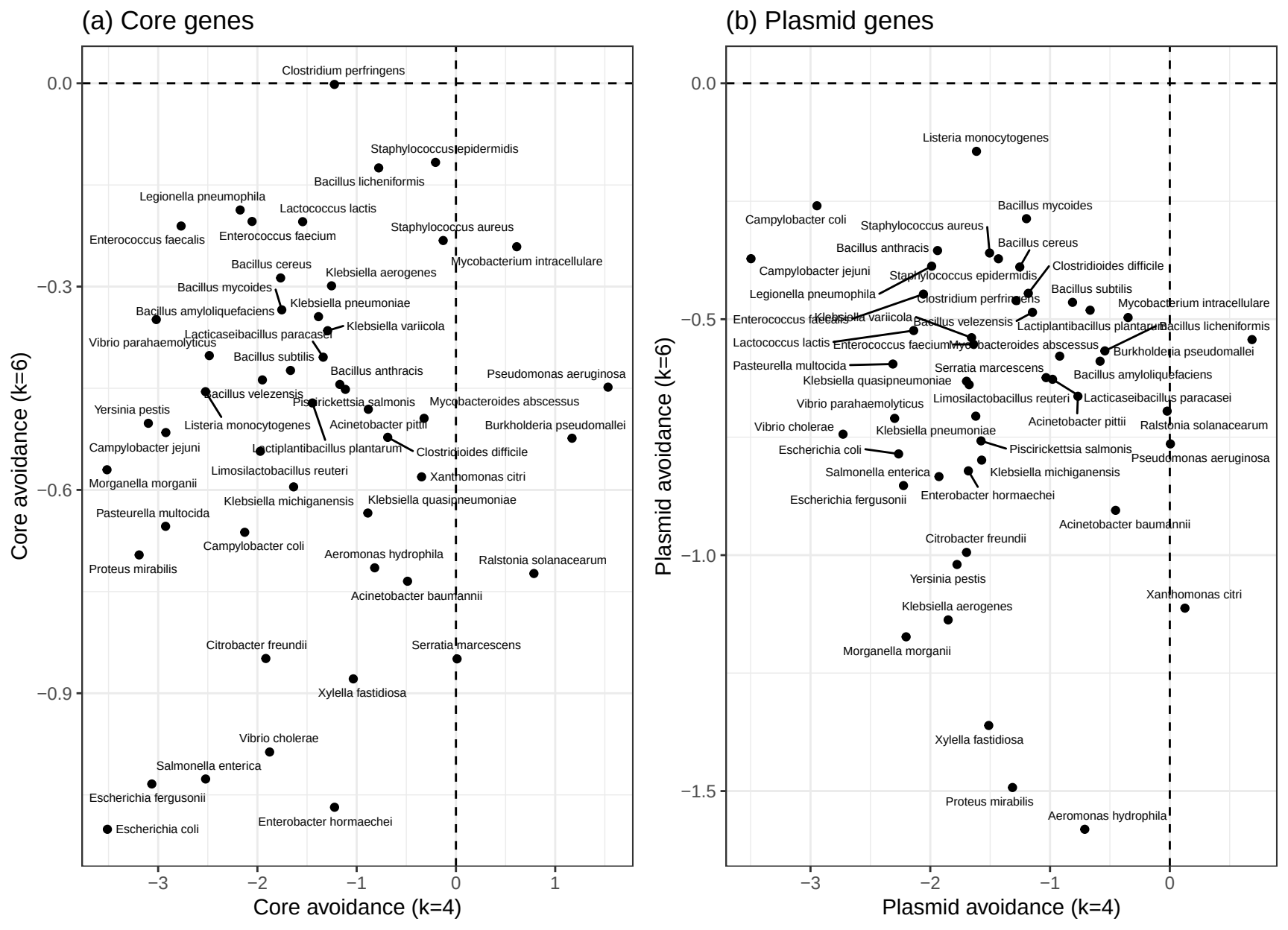
(a) Core genes
Core avoidance (k=6)
Core avoidance (k=4)
0.0
−0.3
−0.6
−0.9
−3
−2
−1
0
1
Clostridium perfringens
Staphylococcus epidermidis
Bacillus licheniformis
Legionella pneumophila
Lactococcus lactis
Enterococcus faecalis
Enterococcus faecium
Staphylococcus aureus
Mycobacterium intracellulare
Bacillus cereus
Klebsiella aerogenes
Bacillus mycoides
Klebsiella pneumoniae
Bacillus amyloliquefaciens
Klebsiella variicola
Lacticaseibacillus paracasei
Vibrio parahaemolyticus
Bacillus subtilis
Bacillus anthracis
Pseudomonas aeruginosa
Bacillus velezensis
Piscirickettsia salmonis
Mycobacteroides abscessus
Yersinia pestis
Listeria monocytogenes
Acinetobacter pittii
Burkholderia pseudomallei
Campylobacter jejuni
Lactiplantibacillus plantarum
Clostridioides difficile
Limosilactobacillus reuteri
Xanthomonas citri
Morganella morganii
Klebsiella michiganensis
Klebsiella quasipneumoniae
Pasteurella multocida
Campylobacter coli
Aeromonas hydrophila
Ralstonia solanacearum
Proteus mirabilis
Acinetobacter baumannii
Citrobacter freundii
Serratia marcescens
Xylella fastidiosa
Vibrio cholerae
Salmonella enterica
Escherichia fergusonii
Enterobacter hormaechei
Escherichia coli
(b) Plasmid genes
Plasmid avoidance (k=6)
Plasmid avoidance (k=4)
0.0
−0.5
−1.0
−1.5
−3
−2
−1
0
Listeria monocytogenes
Bacillus mycoides
Campylobacter coli
Staphylococcus aureus
Bacillus anthracis
Bacillus cereus
Campylobacter jejuni
Staphylococcus epidermidis
Clostridioides difficile
Legionella pneumophila
Clostridium perfringens
Bacillus subtilis
Mycobacterium intracellulare
Enterococcus faecalis
Klebsiella variicola
Bacillus velezensis
Lactiplantibacillus plantarum
Bacillus licheniformis
Lactococcus lactis
Enterococcus faecium
Mycobacteroides abscessus
Burkholderia pseudomallei
Pasteurella multocida
Serratia marcescens
Bacillus amyloliquefaciens
Klebsiella quasipneumoniae
Limosilactobacillus reuteri
Lacticaseibacillus paracasei
Vibrio parahaemolyticus
Acinetobacter pittii
Ralstonia solanacearum
Vibrio cholerae
Klebsiella pneumoniae
Escherichia coli
Piscirickettsia salmonis
Pseudomonas aeruginosa
Salmonella enterica
Klebsiella michiganensis
Escherichia fergusonii
Enterobacter hormaechei
Acinetobacter baumannii
Citrobacter freundii
Yersinia pestis
Xanthomonas citri
Klebsiella aerogenes
Morganella morganii
Xylella fastidiosa
Proteus mirabilis
Aeromonas hydrophila