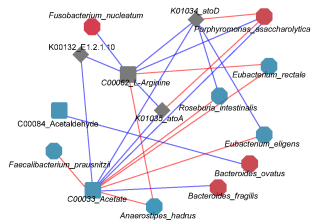
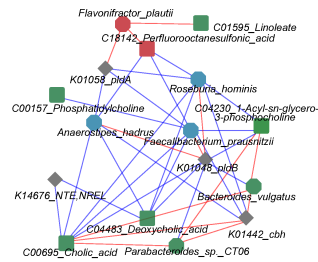


Figure S6 Late-onset CRC



Early-onset CRC



Potential dietary risk factors

Short chain fatty acid

Flavonoids

Red meat

Common signatures

Taxa

Butyric acid producing bacteria

*Faecalibacterium prausnitzii**Eubacterium rectale**Roseburia intestinalis*, et al.

Common cancer-promoting bacteria

*Bacteroides fragilis**Bacteroides ovatus**Porphyromonas asaccharolytica*

Metabolites

Ecotoxic metabolites

Perfluorooctanesulfonic acid

Amino acid metabolites

L-phenylalanine

D-ornithine

KO genes

Urea cycle

Leucine/Isoleucine/Histidine/Lysine biosynthesis

Histidine/Leucine degradation

Phenylalanine biosynthesis

Unique signatures

Taxa

*Fusobacterium nucleatum**Bacteroides caccae**Prevotella intermedia*

Metabolites

L-arginine

Acetate

Acetaldehyde

*Flavonifractor plautii**Bacteroides vulgatus**Parabacteroides sp CT06*

L-aspartate

Tryptophan

Indole-3-acetaldehyde

Bile acids and choline metabolites

Phosphatidylcholine

1-acyl-sn-glycero-3-phosphocholine

Choline

Linoleate

Deoxycholic acid

Cholic acid

KO genes

GABA biosynthesis

Ectoine degradation

Pentose phosphate

Tryptophan/

Phosphatidylcholine biosynthesis

Ectoine degradation