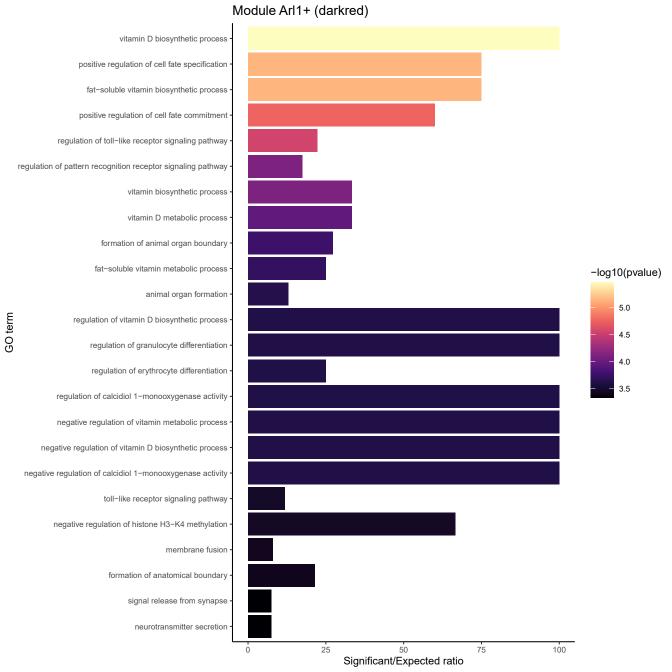
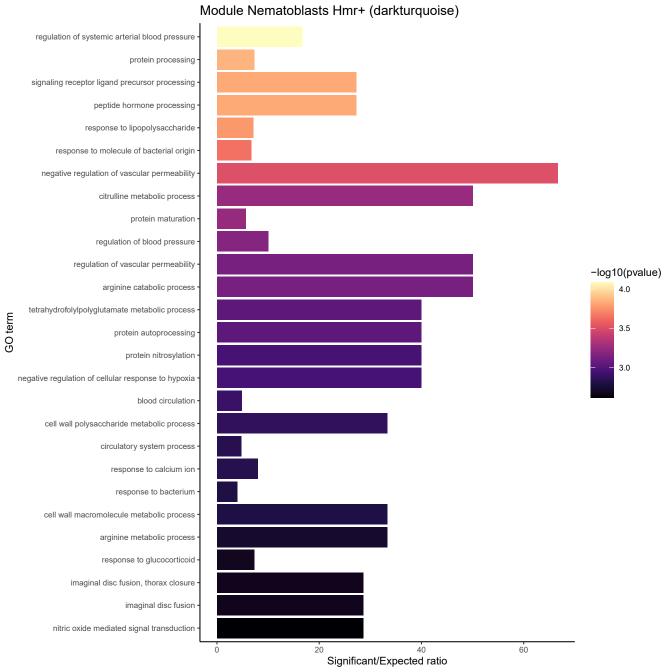
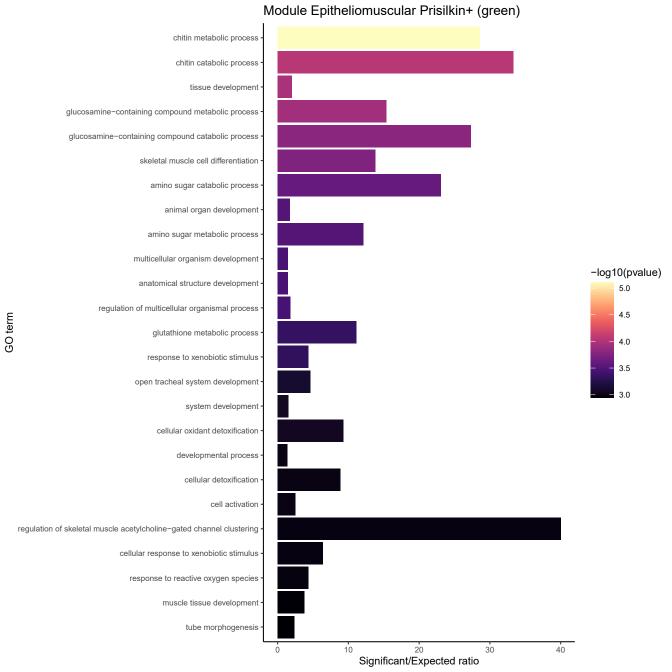
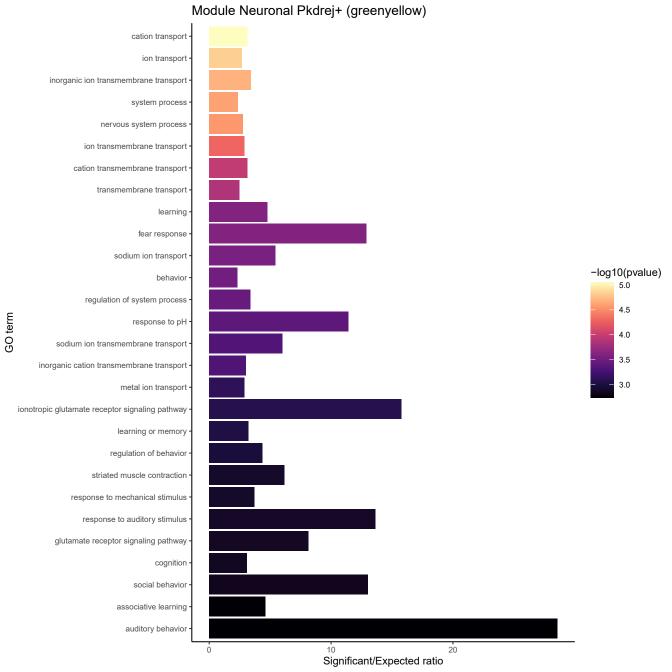


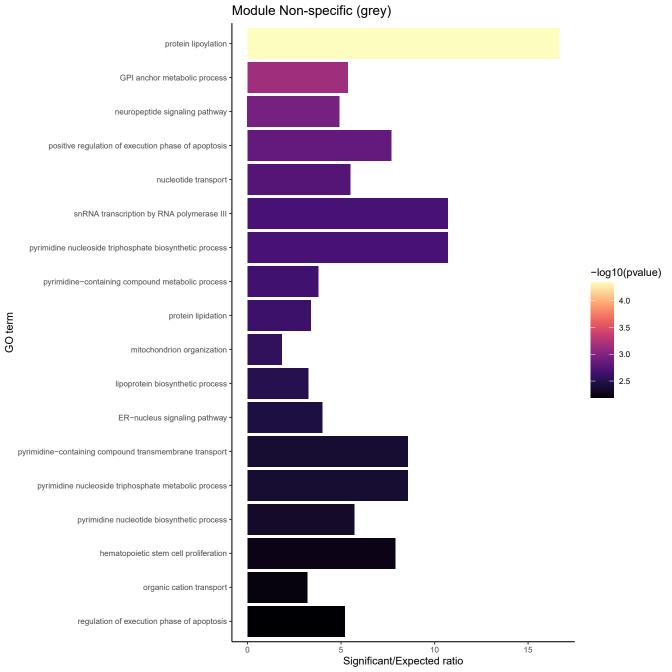
Module Mixed Progenitors 2 (darkorange) cellular nitrogen compound metabolic process nucleobase-containing compound metabolic process nucleic acid metabolic process heterocycle metabolic process rRNA processing cellular aromatic compound metabolic process ribosome biogenesis organic cyclic compound metabolic process rRNA metabolic process -RNA metabolic process ncRNA processing ncRNA metabolic process --log10(pvalue) rRNA modification -10 RNA processing -GO term nitrogen compound metabolic process 8 RNA modification primary metabolic process 6 ribonucleoprotein complex biogenesis cellular metabolic process organic substance metabolic process methylation macromolecule methylation macromolecule metabolic process metabolic process rRNA pseudouridine synthesis sno(s)RNA metabolic process peptidyl-arginine modification -DNA metabolic process gene expression ribosomal large subunit biogenesis 10 20 30 40 Significant/Expected ratio

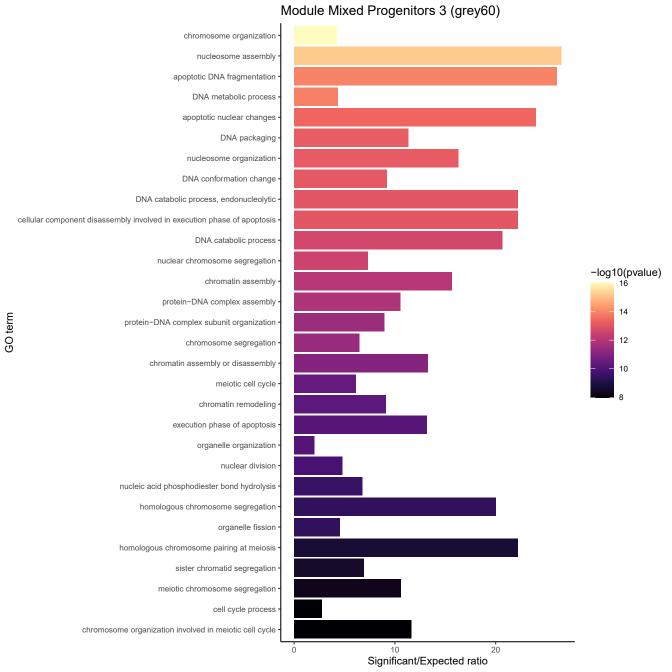


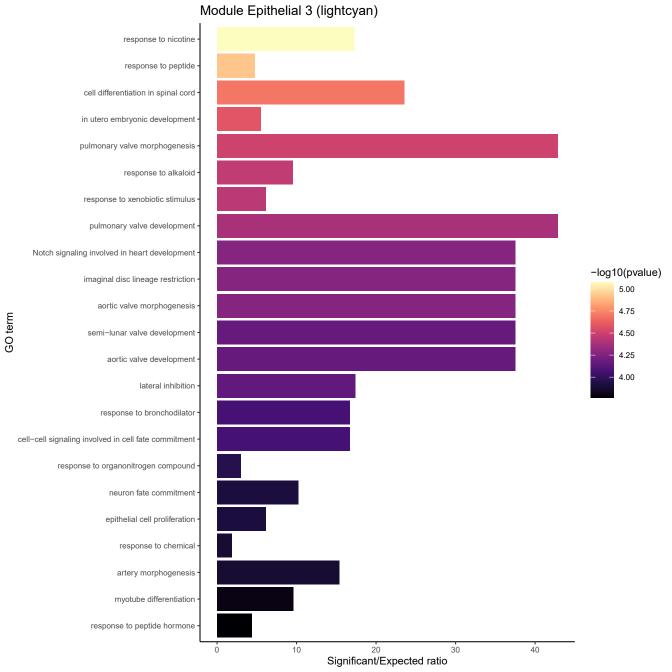


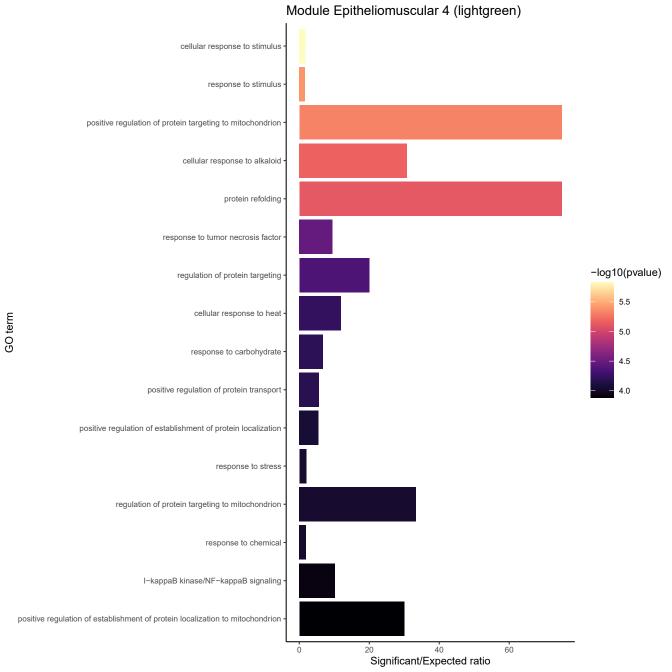




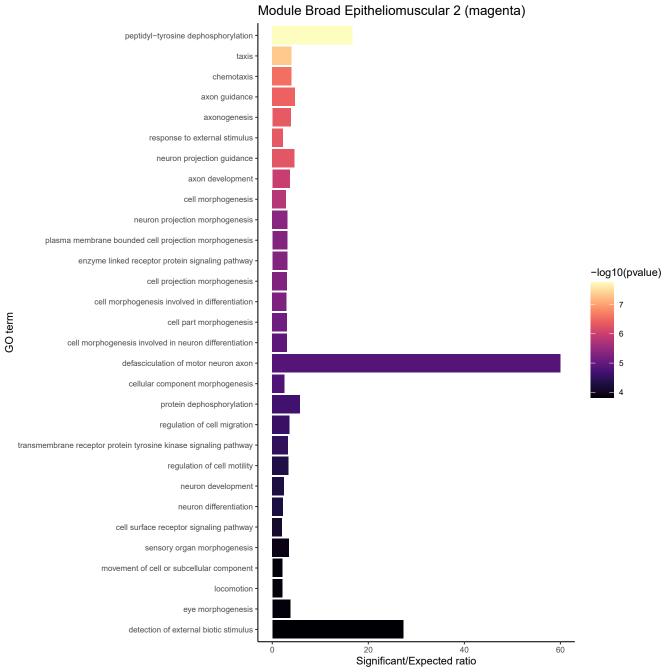


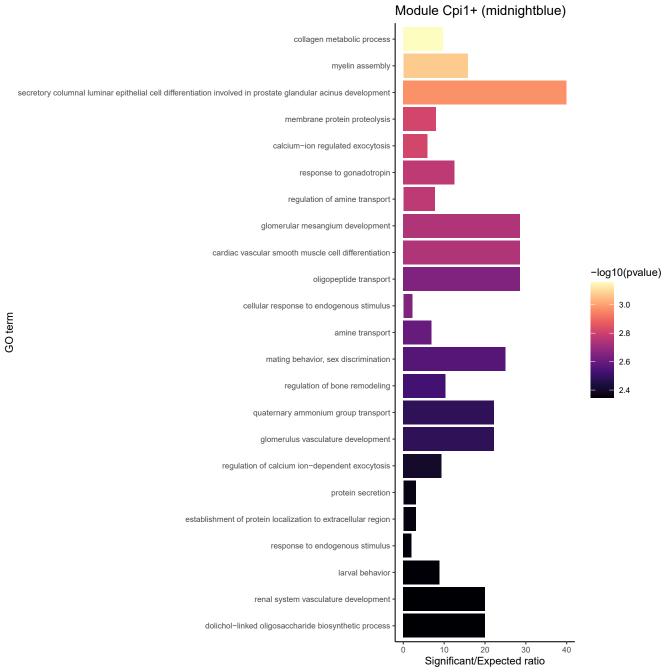






Module Neuronal 4 (lightyellow) membrane repolarization during cardiac muscle cell action potential regulation of heart rate by cardiac conduction membrane repolarization during action potential cardiac muscle cell membrane repolarization membrane repolarization positive regulation of potassium ion transmembrane transport SA node cell to atrial cardiac muscle cell signaling SA node cell to atrial cardiac muscle cell communication SA node cell action potential optic nerve structural organization membrane repolarization during SA node cell action potential membrane repolarization during bundle of His cell action potential -log10(pvalue) cranial nerve structural organization behavioral response to ether 30 term potassium ion homeostasis 10 regulation of cardiac muscle cell membrane repolarization cardiac conduction 9 regulation of atrial cardiac muscle cell membrane repolarization proboscis extension reflex positive regulation of voltage-gated potassium channel activity membrane repolarization during atrial cardiac muscle cell action potential behavioral response to nutrient atrial cardiac muscle cell membrane repolarization cardiac muscle cell action potential regulation of synaptic activity optic nerve morphogenesis bundle of His cell to Purkinje myocyte signaling bundle of His cell action potential regulation of circadian sleep/wake cycle, non-REM sleep optic nerve development 20 40 60 80 Significant/Expected ratio

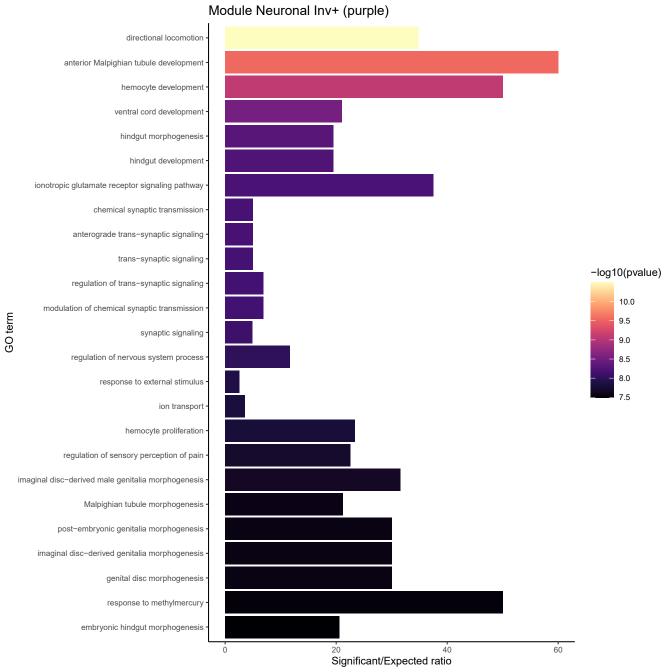




Module Broad Epithelial 3 (orange) negative regulation of smooth muscle cell differentiation digestive tract morphogenesis regulation of smooth muscle cell differentiation digestive tract development digestive system development negative regulation of muscle cell differentiation visual system development eye development smooth muscle cell differentiation sensory system development apical protein localization female sex determination -log10(pvalue) learning or memory -4.5 diencephalon development -GO term 4.0 cognition -3.5 vesicle cargo loading 3.0 morphogenesis of embryonic epithelium pallium development sensory organ development compound eye development male sex differentiation motor neuron axon guidance intercellular transport imaginal disc-derived leg segmentation appendage segmentation memory nervous system process neuron fate specification male germ-line stem cell population maintenance 40 60 Significant/Expected ratio

Module Gland Chitinase 2+ (paleturquoise) chitin catabolic process aminoglycan catabolic process glucosamine-containing compound catabolic process amino sugar catabolic process chitin metabolic process external encapsulating structure organization protein activation cascade carbohydrate derivative catabolic process --log10(pvalue) glucosamine-containing compound metabolic process -5.0 4.5 GO term fungal-type cell wall organization -4.0 aminoglycan metabolic process -3.5 hatching fungal-type cell wall organization or biogenesis cell wall chitin metabolic process amino sugar metabolic process extracellular matrix organization cell wall polysaccharide metabolic process cell wall organization blood coagulation, fibrin clot formation cell wall macromolecule metabolic process -75 100 25 50 Significant/Expected ratio

Module Epithelial 5 (pink) extracellular structure organization extracellular matrix organization external encapsulating structure organization basement membrane organization tube morphogenesis tube development angiogenesis blood vessel development vasculature development blood vessel morphogenesis circulatory system development regulation of locomotion -log10(pvalue) embryonic morphogenesis 15.0 cell adhesion GO term 12.5 biological adhesion -10.0 regulation of signaling receptor activity morphogenesis of embryonic epithelium 7.5 positive regulation of locomotion cell migration regulation of cellular component movement cell motility localization of cell regulation of peptidase activity platelet degranulation respiratory system development cell recognition morphogenesis of an epithelium negative regulation of endopeptidase activity enzyme linked receptor protein signaling pathway 10 5 15 20 Significant/Expected ratio



Module Broad Epitheliomuscular 1 (red) hydrogen peroxide catabolic process antibiotic catabolic process muscle filament sliding cellular response to interferon-beta actin-myosin filament sliding cellular oxidant detoxification cellular detoxification response to interferon-alpha --log10(pvalue) hydrogen peroxide metabolic process response to interferon-beta -GO term 5 detoxification response to chemical negative regulation of axon regeneration negative regulation of neuron projection regeneration antibiotic metabolic process regeneration response to mercury ion response to external stimulus muscle system process creatine biosynthetic process erythrocyte development -20 10 30 40 Significant/Expected ratio

Module Mixed Progenitors 1 (royalblue) cell cycle process cell cycle DNA metabolic process DNA replication DNA-dependent DNA replication mitotic cell cycle process mitotic cell cycle chromosome organization cell cycle DNA replication chromosome segregation nuclear chromosome segregation cell cycle phase transition -log10(pvalue) mitotic cell cycle phase transition 25 sister chromatid segregation GO term negative regulation of cell cycle process 20 nuclear DNA replication DNA biosynthetic process 15 nuclear division negative regulation of cell cycle regulation of cell cycle process mitotic nuclear division regulation of cell cycle organelle fission DNA repair cellular response to DNA damage stimulus DNA strand elongation involved in DNA replication nucleic acid metabolic process DNA conformation change DNA replication initiation telomere maintenance via semi-conservative replication 0 20 Significant/Expected ratio

Module Neuronal Rf+ (saddlebrown) G protein-coupled receptor signaling pathway neuropeptide signaling pathway cell-cell signaling · pancreatic A cell differentiation · L-alpha-amino acid transmembrane transport chemical synaptic transmission anterograde trans-synaptic signaling trans-synaptic signaling · synaptic signaling -log10(pvalue) L-amino acid transport 5.5 5.0 behavior GO term regulation of nervous system process 4.0 regulation of olfactory learning 3.5 inter-male aggressive behavior amino acid transmembrane transport negative regulation of synaptic transmission inhibitory postsynaptic potential anion transmembrane transport regulation of respiratory gaseous exchange learning or memory · aggressive behavior · long-term synaptic depression cognition 20 10 30 40 50 Significant/Expected ratio

Module Broad Neuronal 1 (salmon) nervous system process system process behavior cation transport cation transmembrane transport ion transmembrane transport cognition metal ion transport transmembrane transport ion transport learning or memory inorganic cation transmembrane transport --log10(pvalue) positive regulation of synaptic transmission -9 regulation of biological quality -GO term sensory perception inorganic ion transmembrane transport chemical synaptic transmission anterograde trans-synaptic signaling trans-synaptic signaling synaptic signaling chemosensory behavior locomotory behavior regulation of membrane potential stabilization of membrane potential regulation of trans-synaptic signaling modulation of chemical synaptic transmission olfactory behavior second-messenger-mediated signaling associative learning hindbrain maturation -0 10 20 30 40 Significant/Expected ratio

Module Nematoblasts 1 (sienna3) chondroitin sulfate proteoglycan biosynthetic process chondroitin sulfate proteoglycan metabolic process chondroitin sulfate metabolic process proteoglycan biosynthetic process proteoglycan metabolic process glycosaminoglycan biosynthetic process glycoprotein biosynthetic process --log10(pvalue) mucopolysaccharide metabolic process -4.0 chondroitin sulfate biosynthetic process -GO term 3.5 aminoglycan biosynthetic process -3.0 2.5 glycoprotein metabolic process glycosaminoglycan metabolic process heparan sulfate proteoglycan biosynthetic process heparan sulfate proteoglycan metabolic process protein peptidyl-prolyl isomerization aminoglycan metabolic process regulation of erythrocyte differentiation epithelial cell migration, open tracheal system -10 20 30 40 Significant/Expected ratio

