

**Supplementary Material for “A Bayesian Model for the Identification of  
Differentially Expressed Genes in *Daphnia Magna* Exposed to Munition  
Pollutants”**

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## Appendix

The following two tables show the numbers of pathways identified by our method over the total number of pathways represented in KEGG. Table 1 focuses on the top level (general terms), while Table 2 shows additional sub-levels (potential additional terms).

Table 1: KEGG pathways analysis: Top Level. Summary of functions by general terms.

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Metabolism	0.2197	0.2543	0.3179	0.3064
Genetic Information Processing	0.3182	0.4091	0.4091	0.1818
Environmental Information Processing	0.1471	0.2353	0.2059	0.2059
Cellular Processes	0.2	0.2	0.2	0.2
Organismal Systems	0.0143	0.0143	0.0143	0.0143
Human Diseases	0	0	0	0
Drug Development	0	0	0	0

Table 2: KEGG pathways analysis: Top Level and sub-levels. Summary of functions by general terms and, at second level, potential additional terms.

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Metabolism (Global and overview maps)	0	0	0	0
Metabolism (Carbohydrate metabolism)	0.0636	0.0694	0.0751	0.0809
Metabolism (Energy metabolism)	0.0058	0.0058	0.0116	0.0116
Metabolism (Lipid metabolism)	0.0289	0.0405	0.052	0.0578
Metabolism (Nucleotide metabolism)	0.0116	0.0116	0.0116	0.0116
Metabolism (Amino acid metabolism)	0.052	0.0636	0.0694	0.0578
Metabolism (Metabolism of other amino acids)	0.0058	0.0058	0.0173	0.0116
Metabolism (Glycan biosynthesis and metabolism)	0.0231	0.0231	0.0231	0.0289

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**Table 2 – continued from previous page**

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Metabolism (Metabolism of cofactors and vitamins)	0.0116	0.0173	0.0231	0.0173
Metabolism (Metabolism of terpenoids and polyketides)	0	0	0.0116	0.0058
Metabolism (Biosynthesis of other secondary metabolites)	0	0	0.0058	0.0058
Metabolism (Xenobi- otics biodegradation and metabolism)	0.0173	0.0173	0.0173	0.0173
Metabolism (Chemical structure transforma- tion maps)	0	0	0	0
Genetic Information Processing (Transcrip- tion)	0.0455	0.0909	0.0909	0.0455
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**Table 2 – continued from previous page**

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Genetic Information Processing (Translation)	0.0909	0.0909	0.0909	0.0455
Genetic Information Processing (Folding, sorting and degradation)	0.1818	0.2273	0.2273	0.0909
Genetic Information Processing (Replication and repair)	0	0	0	0
Environmental Information Processing (Membrane transport)	0	0	0	0
Environmental Information Processing (Signal transduction)	0.1176	0.2059	0.1471	0.1765
Environmental Information Processing (Signaling molecules and interaction)	0.0294	0.0294	0.0588	0.0294
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**Table 2 – continued from previous page**

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Cellular Processes (Transport and catabolism)	0.2	0.2	0.2	0.2
Cellular Processes (Cell motility)	0	0	0	0
Cellular Processes (Cell growth and death)	0	0	0	0
Cellular Processes (Cellular community)	0	0	0	0
Organismal Systems (Immune system)	0	0	0	0
Organismal Systems (Endocrine system)	0.0143	0.0143	0.0143	0.0143
Organismal Systems (Circulatory system)	0	0	0	0
Organismal Systems (Digestive system)	0	0	0	0
Organismal Systems (Excretory system)	0	0	0	0
Organismal Systems (Nervous system)	0	0	0	0
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**Table 2 – continued from previous page**

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Organismal Systems (Sensory system)	0	0	0	0
Organismal Systems (Development)	0	0	0	0
Organismal Systems (Environmental adaptation)	0	0	0	0
Human Diseases (Can- cers: Overview)	0	0	0	0
Human Diseases (Can- cers: Specific types)	0	0	0	0
Human Diseases (Im- mune diseases)	0	0	0	0
Human Diseases (Neurodegenerative diseases)	0	0	0	0
Human Diseases (Sub- stance dependence)	0	0	0	0
Human Diseases (Car- diovascular diseases)	0	0	0	0
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**Table 2 – continued from previous page**

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Human Diseases (Endocrine and metabolic diseases)	0	0	0	0
Human Diseases (Infectious diseases: Bacterial)	0	0	0	0
Human Diseases (Infectious diseases: Viral)	0	0	0	0
Human Diseases (Infectious diseases: Parasitic)	0	0	0	0
Human Diseases (Drug resistance)	0	0	0	0
Drug Development (Chronology: Antiinfectives)	0	0	0	0
Drug Development (Chronology: Antineoplastics)	0	0	0	0
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**Table 2 – continued from previous page**

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Drug Development (Chronology: Nervous system agents)	0	0	0	0
Drug Development (Chronology: Other drugs)	0	0	0	0
Drug Development (Target-based classification: G protein-coupled receptors)	0	0	0	0
Drug Development (Target-based classification: Nuclear receptors)	0	0	0	0
Drug Development (Target-based classification: Ion channels)	0	0	0	0
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**Table 2 – continued from previous page**

<b>KEGG pathway</b>	<b>Mix 1</b>	<b>Mix 2</b>	<b>Mix 3</b>	<b>Mix 4</b>
Drug Development (Target-based classification: Transporters)	0	0	0	0
Drug Development (Target-based classification: Enzymes)	0	0	0	0
Drug Development (Structure-based classification)	0	0	0	0
Drug Development (Skeleton-based classification)	0	0	0	0