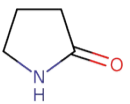
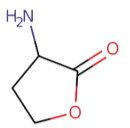
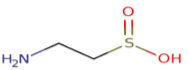
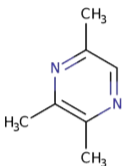
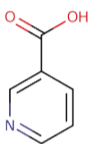
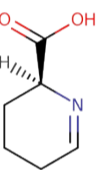
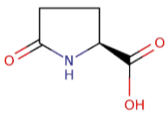
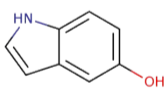
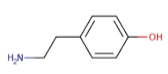
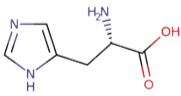
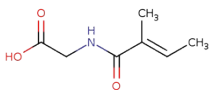
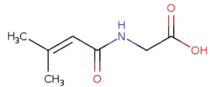
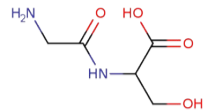
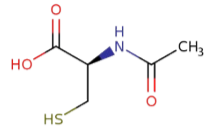
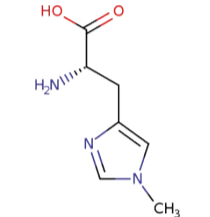
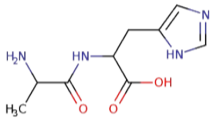


Table S3: The information of metabolites reference standards

Name	Formula	Chemical structure	Mass	Rt (min)	Source
2-Pyrrolidinone	C ₄ H ₇ NO		86.06	4.85	http://www.hmdb.ca/metabolites/HMDB02039
L-3-Aminodihydro-2(3H)-furanone	C ₄ H ₇ NO ₂		102.03	5.85	http://www.hmdb.ca/metabolites/HMDB29387
Hypotaurine	C ₂ H ₇ NO ₂ S		110.02	5.02	http://www.hmdb.ca/metabolites/HMDB00965
Trimethylpyrazine	C ₇ H ₁₀ N ₂		123.04	5.85	http://www.hmdb.ca/metabolites/HMDB31844
Nicotinic acid	C ₆ H ₅ NO ₂		124.04	4.70	http://www.hmdb.ca/metabolites/HMDB01488
(S)-2,3,4,5-tetrahydropyridine-2-carboxylate	C ₆ H ₉ NO ₂		128.12	11.03	http://www.hmdb.ca/metabolites/HMDB59657
Pyroglutamic acid	C ₅ H ₇ NO ₃		130.01	7.00	http://www.hmdb.ca/metabolites/HMDB00267
5-Hydroxyindole	C ₈ H ₇ NO		134.06	2.46	http://www.hmdb.ca/metabolites/HMDB59805
Tyramine	C ₈ H ₁₁ NO		138.09	5.50	http://www.hmdb.ca/metabolites/HMDB00306
L-Histidine	C ₆ H ₉ N ₃ O ₂		156.14	4.91	http://www.hmdb.ca/metabolites/HMDB00177
Tiglylglycine	C ₇ H ₁₁ NO ₃		158.00	7.01	http://www.hmdb.ca/metabolites/HMDB00959

3-Methylcrotonylglycine	$C_7H_{11}NO_3$		158.15	10.07	http://www.hmdb.ca/metabolites/HMDB00459
Glycyl-Serine	$C_5H_{10}N_2O_4$		163.12	6.23	http://www.hmdb.ca/metabolites/HMDB28850
Acetylcysteine	$C_5H_9NO_3S$		64.06	8.59	http://www.hmdb.ca/metabolites/HMDB01890
1-Methylhistidine	$C_7H_{11}N_3O_2$		170.09	1.32	http://www.hmdb.ca/metabolites/HMDB00001
Alanyl-Histidine	$C_9H_{14}N_4O_3$		227.18	6.16	http://www.hmdb.ca/metabolites/HMDB28689
