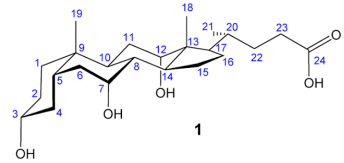
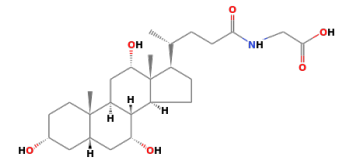
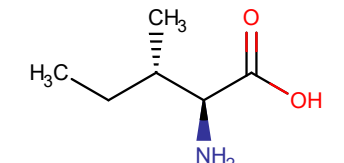
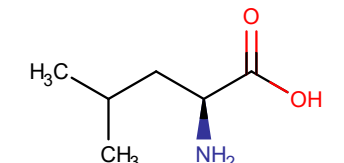
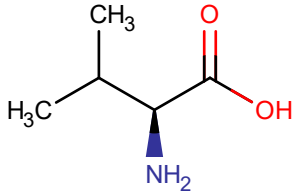
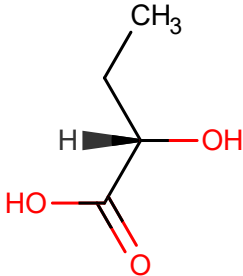
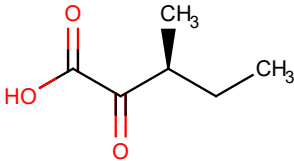
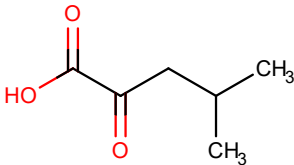
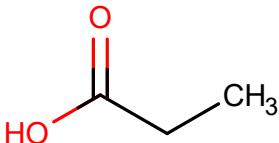
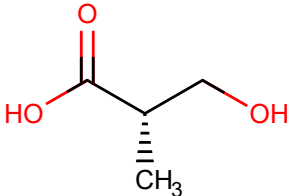
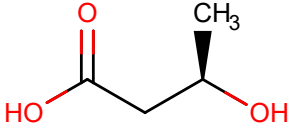
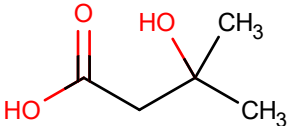
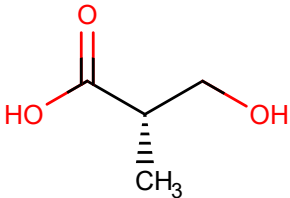


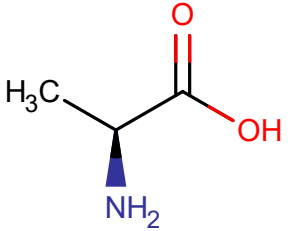
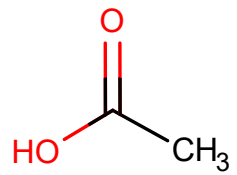
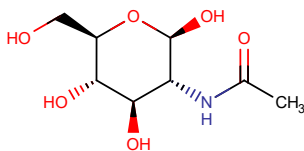
Table S1: Chemical information and shifts for representative ¹H-NMR spectra of pooled blood samples from giraffes (black) and rhinos (blue). Multiplicity: s – singlet; d – doublet; t – triplet; dd – double doublet; dt – double triplet; tt = triple triplet; q – quartet; p – pentet; h – hextet; m – multiplet; AB – AB system; BS – broad singlet. ND = not determined.

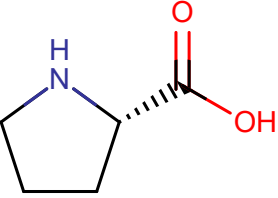
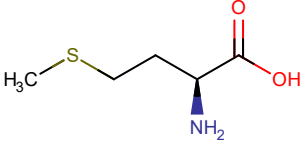
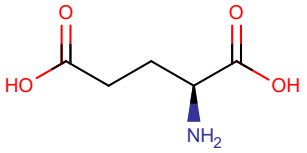
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
1	Cholic acid (level 2)		HMDB0000619	C ₂₄ H ₄₀ O ₅	0.83 s	CH ₃
2	Glycocholic acid (level 2)		HMDB0000138	C ₂₆ H ₄₃ NO ₆	0.84 s	CH ₃
3	Isoleucine (level 1)		HMDB0000172	C ₆ H ₁₃ NO ₂	0.94 t (J = 7.3 Hz)	CH ₃
					1.01 d (J = 7.1 Hz)	CH ₃
4	Leucine (level 1)		HMDB0000687	C ₆ H ₁₃ NO ₂	0.96 dd (J = 6.2 Hz)	(CH ₃) ₂

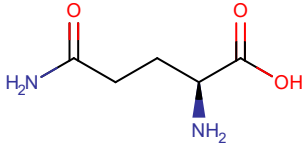
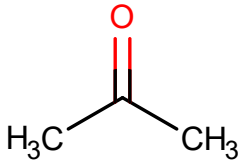
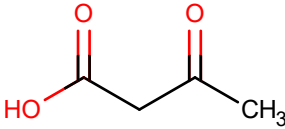
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
5	Valine (level 1)		HMDB0000883	C ₅ H ₁₁ NO ₂	0.99 d (J = 7.0 Hz)	CH ₃
					1.04 d (J = 7.0 Hz)	CH ₃
					2.28 m	CH ₂
6	2-Hydroxybutyric acid (level 1)		HMDB0000008	C ₄ H ₈ O ₃	0.89 t (J = 7.3 Hz)	CH ₃
7	3-Methyl-2-oxovaleric acid (level 1)		HMDB0000491	C ₆ H ₁₀ O ₃	0.89 t (J = 7.1 Hz)	CH ₃
					1.10 d (J = 6.9 Hz)	CH ₃

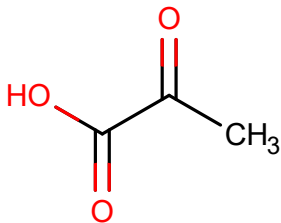
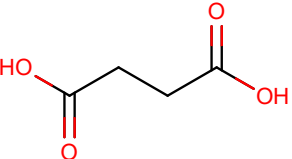
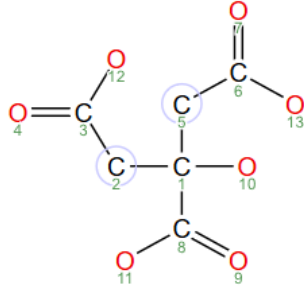
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
8	2-Oxoisocaproic acid (level 1)		HMDB0000695	C ₆ H ₁₀ O ₃	0.94 d (J = 6.3 Hz)	CH ₃
					2.62 d (J = 6.8 Hz)	CH ₃
9	Propionic acid (level 1)		HMDB0000237	C ₃ H ₆ O ₂	1.06 t (J = 7.1 Hz)	CH ₃
10	3-Hydroxyisobutyric acid (level 1)		HMDB0000023	C ₄ H ₈ O ₃	1.09 d (J = 7.0 Hz)	CH ₃

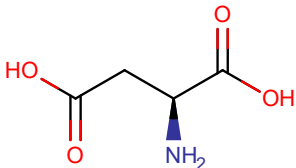
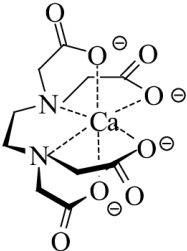
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
11	3-Hydroxybutyric acid (level 1)		HMDB0000011	C ₄ H ₈ O ₃	1.20 d (J = 6.2 Hz)	CH ₃
					2.36 ABX (J = 8.1, 16.0 Hz)	CH ₂
					4.16 m	CH
12	3-Hydroxyisovaleric acid (level 2)		HMDB0000754	C ₅ H ₁₀ O ₃	1.27 s	(CH ₃) ₂
					2.37 s	CH ₂
13	2-Hydroxyisobutyric acid (level 2)		HMDB0000023	C ₄ H ₈ O ₃	1.36 s	CH ₃

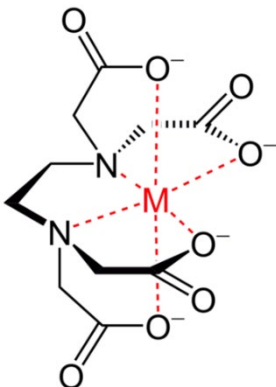
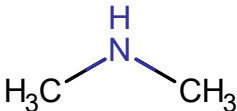
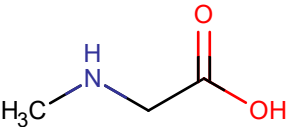
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14	Alanine (level 1)		HMDB0000161	C ₃ H ₇ NO ₂	1.48 d (J = 7.3 Hz)	CH ₃
15	Acetic acid (level 2)		HMDB0000042	C ₂ H ₄ O ₂	1.92 s	CH ₃
16	N-Acetylglucosamine (level 1)		HMDB0000803	C ₈ H ₁₅ NO ₆	1.99 s	CH ₃

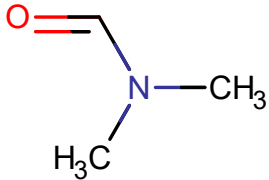
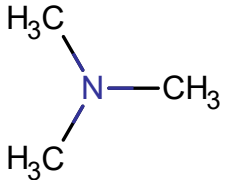
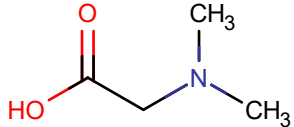
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
17	Proline (level 1)		HMDB0000162	$C_5H_9NO_2$	2.00 m	CH_2
					2.30 m	CH_2
18	Methionine (level 1)		HMDB0000696	$C_5H_{11}NO_2S$	2.17 s	CH_3
					2.43 t (J = 6.4 Hz)	CH_2
19	Glutamic acid (level 1)		HMDB0000148	$C_5H_9NO_4$	2.05 m	CH_2
					2.35 m	CH_2

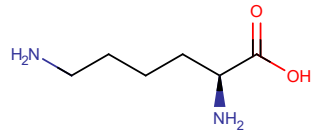
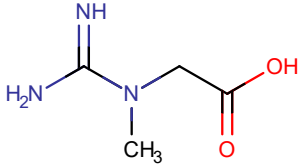
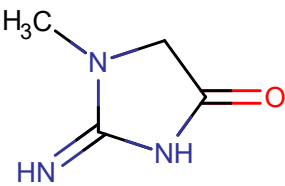
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20	Glutamine (level 1)		HMDB0000641	$C_5H_{10}N_2O_3$	2.16 m	CH_2
					2.43 m	CH_2
21	Acetone (level 2)		HMDB0001659	C_3H_6O	2.23 s	$(CH_3)_2$
22	Acetoacetic acid (level 2)		HMDB0000060	$C_4H_6O_3$	2.28 s	CH_3

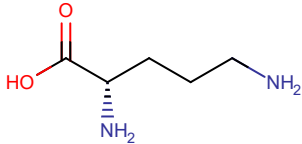
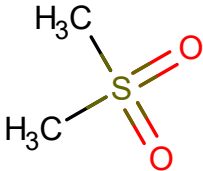
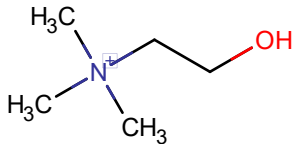
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
23	Pyruvic acid (level 2)		HMDB0000243	C ₃ H ₄ O ₃	2.38 s	CH ₃
24	Succinic acid (level 2)		HMDB0000254	C ₄ H ₆ O ₄	2.40 s	(CH ₂) ₂
25	Citric acid (level 1)		HMDB0000094	C ₆ H ₈ O ₇	2.59 AB (J = 15.3 Hz)	(CH ₂) ₂

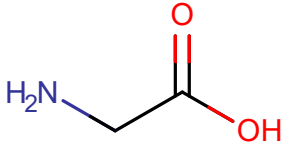
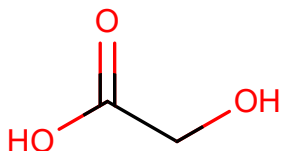
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
26	Methylamine (level 2)		HMDB0000164	CH ₅ N	2.61 s	CH ₃
27	Aspartic acid (level 1)		HMDB0000191	C ₄ H ₇ NO ₄	2.68 dd (J = ND)	CH ₂
					2.81 dd (J = ND)	CH ₂
28	Ca-EDTA (level 1)		N/A	C ₁₀ H ₁₂ CaN ₂ O ₈	2.56 s	(CH ₂) ₂
					3.12 q (J = 30.2, 16 Hz)	(CH ₂) ₄

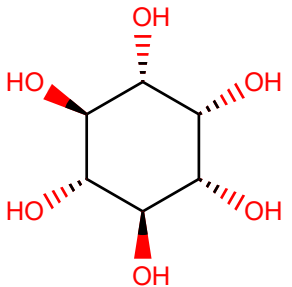
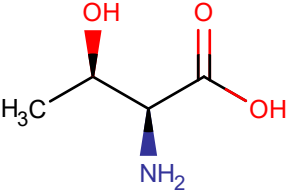
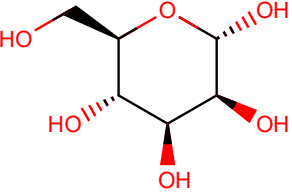
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
29	Mg-EDTA (level 1)		N/A	$C_{10}H_{12}MgN_2O_8$	2.70 s	$(CH_2)_2$
30	Dimethylamine (level 2)		HMDB0000087	C_2H_7N	2.72 s	$(CH_3)_2$
31	Sarcosine (level 2)		HMDB0000271	$C_3H_7NO_2$	2.72 s	CH_3

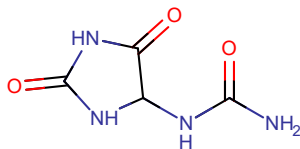
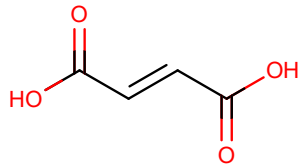
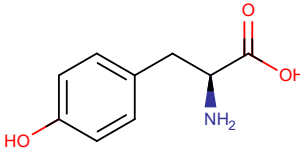
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
32	N,N-Dimethylformamide (level 2)		HMDB0001888	C ₃ H ₇ NO	2.86 s	CH ₃
					3.02 s	CH ₃
33	Trimethylamine (level 2)		HMDB0000906	C ₃ H ₉ N	2.87 s	(CH ₃) ₃
34	N,N-Dimethylglycine (level 2)		HMDB0000092	C ₄ H ₉ NO ₂	2.93 s	(CH ₃) ₂

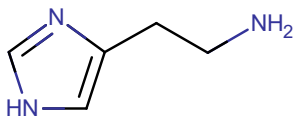
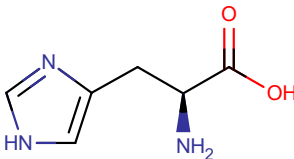
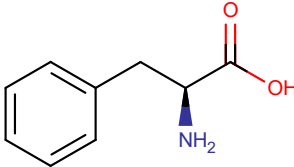
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
35	Lysine (level 1)		HMDB0000182	C ₆ H ₁₄ N ₂ O ₂	1.73 m	CH ₂
					1.91 m	CH ₂
					3.03 t (J = 7.8 Hz)	CH ₂
36	Creatine (level 2)		HMDB0000064	C ₄ H ₉ N ₃ O ₂	3.04 s	CH ₃
					3.93 s	CH ₂
37	Creatinine (level 2)		HMDB0000562	C ₄ H ₇ N ₃ O	3.045 s	CH ₃
					4.06 s	CH ₂

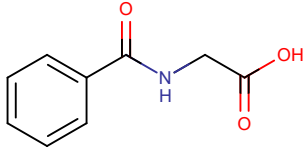
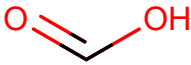
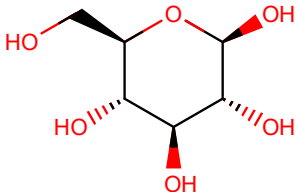
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
38	Ornithine (level 1)		HMDB0000214	$C_5H_{12}N_2O_2$	3.06 t (J = ND)	CH_2
39	Dimethyl sulfone (level 2)		HMDB0004983	$C_2H_6O_2S$	3.16 s	$(CH_3)_2$
40	Choline (level 1)		HMDB0000097	$C_5H_{14}NO$	3.20 s	$(CH_3)_3$
					4.03 t (J = 5.4 Hz)	CH_2

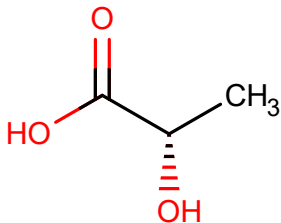
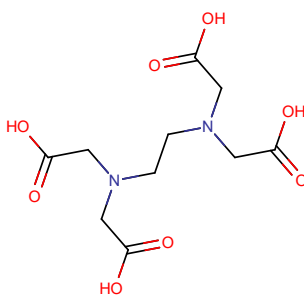
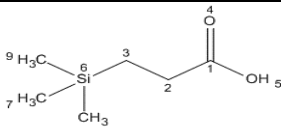
Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
41	Methanol (level 2)	$\text{H}_3\text{C}-\text{OH}$	HMDB0001875	CH_4O	3.36 s	CH_3
42	Glycine (level 2)		HMDB0000123	$\text{C}_2\text{H}_5\text{NO}_2$	3.57 s	CH_2
43	Glycolic acid (level 2)		HMDB0000115	$\text{C}_2\text{H}_4\text{O}_3$	3.96 s	CH_2

Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
44	myo-Inositol (level 1)		HMDB0000211	C ₆ H ₁₂ O ₆	3.34 dd (J = ND)	CH
					4.07 t (J = ND)	CH
45	Threonine (level 1)		HMDB0000167	C ₄ H ₉ NO ₃	1.32 d (J = ND)	CH ₃
					4.25 q (J = ND)	CH
46	Mannose (level 1)		HMDB0000169	C ₆ H ₁₂ O ₆	5.19 d (J = ND)	CH

Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
47	Allantoin (level 2)		HMDB0000462	C ₄ H ₆ N ₄ O ₃	5.40 s	CH
48	Fumaric acid (level 2)		HMDB0000134	C ₄ H ₄ O ₄	6.52 s	(CH) ₂
49	Tyrosine (level 1)		HMDB0000158	C ₉ H ₁₁ NO ₃	6.90 dd (J = 6.6 Hz)	(CH) ₂
					7.19 dd (J = 6.6 Hz)	(CH) ₂

Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
50	Histamine (level 2)		HMDB0000870	C ₅ H ₉ N ₃	7.00 d (J = ND)	CH
51	Histidine (level 2)		HMDB0000177	C ₆ H ₉ N ₃ O ₂	7.07 d (J = ND)	CH
					7.80 d (J = ND)	CH
52	Phenylalanine (level 1)		HMDB0000159	C ₉ H ₁₁ NO ₂	7.39 m	(CH) ₅

Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
53	Hippuric acid (level 1)		HMDB0000714	$C_9H_9NO_3$	7.55 dd (J = 7.7 Hz)	$(CH)_2$
					7.64 tt (J = 7.7 Hz)	$(CH)_2$
					7.83 dd (J = 7.4, 1.5 Hz)	CH
54	Formic acid (level 2)		HMDB0000142	CH_2O_2	8.46 s	CH
Glc	Glucose (level 1)		HMDB0000122	$C_6H_{12}O_6$	3.22-3.27	
					3.38-3.92	
					4.65 d (J = 8.3 Hz)	CH
					5.24 d (J = 3.5 Hz)	CH

Peak assignment	Metabolite name (*MSI metabolite identity)	Chemical structure	HMDB ID	Chemical formula	δ (ppm), multiplicity (J coupling)	Chemical group
LA	Lactic acid (level 1)		HMDB0000190	C ₃ H ₆ O ₃	1.33 d (J = 7.0 Hz)	CH ₃
					4.12 q (J = 7.0 Hz)	CH
EDTA	Ethylenediaminetetraacetic acid (level 2)		HMDB0015109	C ₁₀ H ₁₆ N ₂ O ₈	3.22 s	(CH ₂) ₂
					3.62 s	(CH ₂) ₄
IS	TSP		N/A	C ₆ H ₁₄ O ₂ Si	0.00 s	Si-(CH ₃) ₃

*Metabolomics Standards Initiative (MSI) metabolite identity: level 1 = confirmed identity by reference standards (confirmed using 2D COSY NMR); level 2 = putatively annotated (confirmed 1D but cannot confirm using 2D COSY NMR [e.g., singlet(s)]).