

Supplementary Table S2. The list of identified metabolites from ¹H-NMR spectra of the MCAO and RR treated rats' serum samples.

| No. | Metabolites | Chemical shift (ppm)(multiplicity) | Model VS Sham | | | RR-L VS MCAO | | | RR-M VS MCAO | | | RR-H VS MCAO | | |
|-----|---------------------------|---|---------------|------|-----------------|--------------|------|-----------------|--------------|------|-----------------|--------------|------|-----------------|
| | | | VIP | FC | <i>p</i> -value | VIP | FC | <i>p</i> -value | VIP | FC | <i>p</i> -value | VIP | FC | <i>p</i> -value |
| 1 | 2-Hydroxybutyrate | 0.90(t) , 4.00(m) | 1.29 | 0.67 | 0.046 | 1.21 | 1.19 | 0.081 | <1 | 1.00 | 0.972 | <1 | 1.06 | 0.567 |
| 2 | Isoleucine | 0.94(t) , 1.01(d), 3.68(d) | 1.52 | 1.25 | 0.005 | 1.32 | 0.95 | 0.558 | 1.93 | 0.81 | 0.001 | 1.02 | 0.92 | 0.324 |
| 3 | Leucine | 0.96(d), 0.97(d) , 1.718(m), 3.740(m) | 2.15 | 1.44 | 0 | 1.15 | 0.99 | 0.882 | 1.86 | 0.89 | 0.05 | <1 | 1.00 | 0.995 |
| 4 | Valine | 0.99(d), 1.05(d) , 2.281(m), 3.617(d) | 2.23 | 1.48 | 0 | 1.07 | 0.98 | 0.793 | 1.48 | 0.86 | 0.015 | <1 | 0.97 | 0.788 |
| 5 | 3-Hydroxyisobutyrate | 1.08(d) | 2.10 | 1.38 | 0 | 1.10 | 0.96 | 0.5 | 1.05 | 0.90 | 0.116 | <1 | 0.94 | 0.595 |
| 6 | Propylene glycol | 1.14(d) | 1.36 | 0.60 | 0.023 | 1.81 | 1.49 | 0.046 | 1.11 | 1.10 | 0.674 | 1.33 | 1.35 | 0.108 |
| 7 | 3-Aminoisobutyric acid | 1.23(d) , 2.59(m) | 1.83 | 1.27 | 0.004 | 1.87 | 0.85 | 0.057 | 1.54 | 0.85 | 0.038 | 2.03 | 0.84 | 0.016 |
| 8 | N6-Acetyllysine | 1.95(s) | 1.53 | 1.23 | 0.014 | 1.40 | 0.90 | 0.162 | 1.07 | 0.88 | 0.134 | 1.72 | 0.88 | 0.036 |
| 9 | Lipid | 2.05 | 1.99 | 1.24 | 0 | 1.73 | 0.90 | 0.109 | 2.00 | 0.86 | 0.003 | 2.45 | 0.85 | 0.001 |
| 10 | Glutamine | 2.16(m) , 2.48(m) | 1.77 | 1.18 | 0.003 | 2.48 | 0.92 | 0.074 | <1 | 0.99 | 0.773 | <1 | 0.93 | 0.235 |
| 11 | Acetone | 2.23(s) | 1.80 | 2.04 | 0 | 1.21 | 1.05 | 0.882 | <1 | 0.96 | 0.834 | <1 | 0.97 | 0.895 |
| 12 | Acetoacetate | 2.29(s) | 1.62 | 1.62 | 0.004 | <1 | 0.98 | 0.921 | <1 | 1.22 | 0.296 | <1 | 0.92 | 0.62 |
| 13 | Methionine | 2.14(s), 2.67(m) | 1.43 | 1.35 | 0.023 | 1.06 | 0.89 | 0.228 | 1.58 | 0.74 | 0.025 | <1 | 0.89 | 0.322 |

| | | | | | | | | | | | | | | |
|----|------------------------|--|------|------|-------|------|------|-------|------|------|-------|------|------|-------|
| 14 | N, N-Dimethylglycine | 2.93(s) | 1.27 | 0.87 | 0.041 | 1.01 | 1.10 | 0.292 | 1.01 | 1.08 | 0.21 | 1.75 | 1.15 | 0.017 |
| 15 | Creatine | 3.05(s) | 1.32 | 1.17 | 0.033 | <1 | 0.92 | 0.343 | <1 | 0.95 | 0.452 | <1 | 0.95 | 0.504 |
| 16 | Choline | 3.21(s) | 1.56 | 1.13 | 0.019 | 1.12 | 0.93 | 0.293 | 2.16 | 0.80 | 0 | 1.11 | 0.94 | 0.227 |
| 17 | Trimethylamine N-oxide | 3.27(s) | 1.21 | 0.90 | 0.03 | <1 | 1.05 | 0.305 | <1 | 1.02 | 0.712 | 1.54 | 1.11 | 0.024 |
| 18 | Myo-inositol | 3.62(t) | 2.10 | 1.25 | 0 | 1.23 | 0.97 | 0.63 | 1.23 | 0.89 | 0.02 | <1 | 0.98 | 0.691 |
| 19 | Ethanol | 3.68(q) | 1.64 | 1.10 | 0.013 | 1.26 | 0.95 | 0.334 | 1.15 | 0.94 | 0.13 | <1 | 1.00 | 0.952 |
| 20 | Glucose | 5.24(d), 4.64(d), 3.88(dd), 3.79(m) , 3.48(m), 3.40(m), 3.24(dd) | 1.94 | 0.86 | 0 | 1.94 | 1.14 | 0.01 | 1.46 | 1.12 | 0.017 | 1.31 | 1.10 | 0.049 |
| 21 | Betaine | 3.3(s), 3.91(s) | 1.80 | 0.86 | 0.001 | 1.65 | 1.14 | 0.042 | 1.25 | 1.10 | 0.075 | 1.44 | 1.15 | 0.037 |
| 22 | Serine | 3.95(d) , 3.96(d), 3.986(d), 4.00(d) | 1.59 | 1.12 | 0.004 | <1 | 0.97 | 0.41 | <1 | 1.00 | 0.99 | <1 | 0.97 | 0.497 |
| 23 | Lactate | 1.33(d), 4.12(q) | 1.59 | 1.21 | 0.013 | 1.91 | 0.82 | 0.01 | 1.91 | 0.78 | 0.002 | 1.83 | 0.83 | 0.038 |
| 24 | Threonine | 1.32(d), 4.28(q) | 1.75 | 1.62 | 0.027 | <1 | 0.80 | 0.254 | <1 | 0.92 | 0.669 | <1 | 0.87 | 0.4 |
| 25 | Histidine | 7.07(s) | 1.23 | 1.24 | 0.033 | <1 | 1.02 | 0.837 | <1 | 0.97 | 0.751 | <1 | 1.07 | 0.589 |
| 26 | Formate | 8.46(s) | 1.85 | 0.63 | 0.001 | <1 | 1.17 | 0.13 | <1 | 1.06 | 0.553 | <1 | 1.02 | 0.752 |