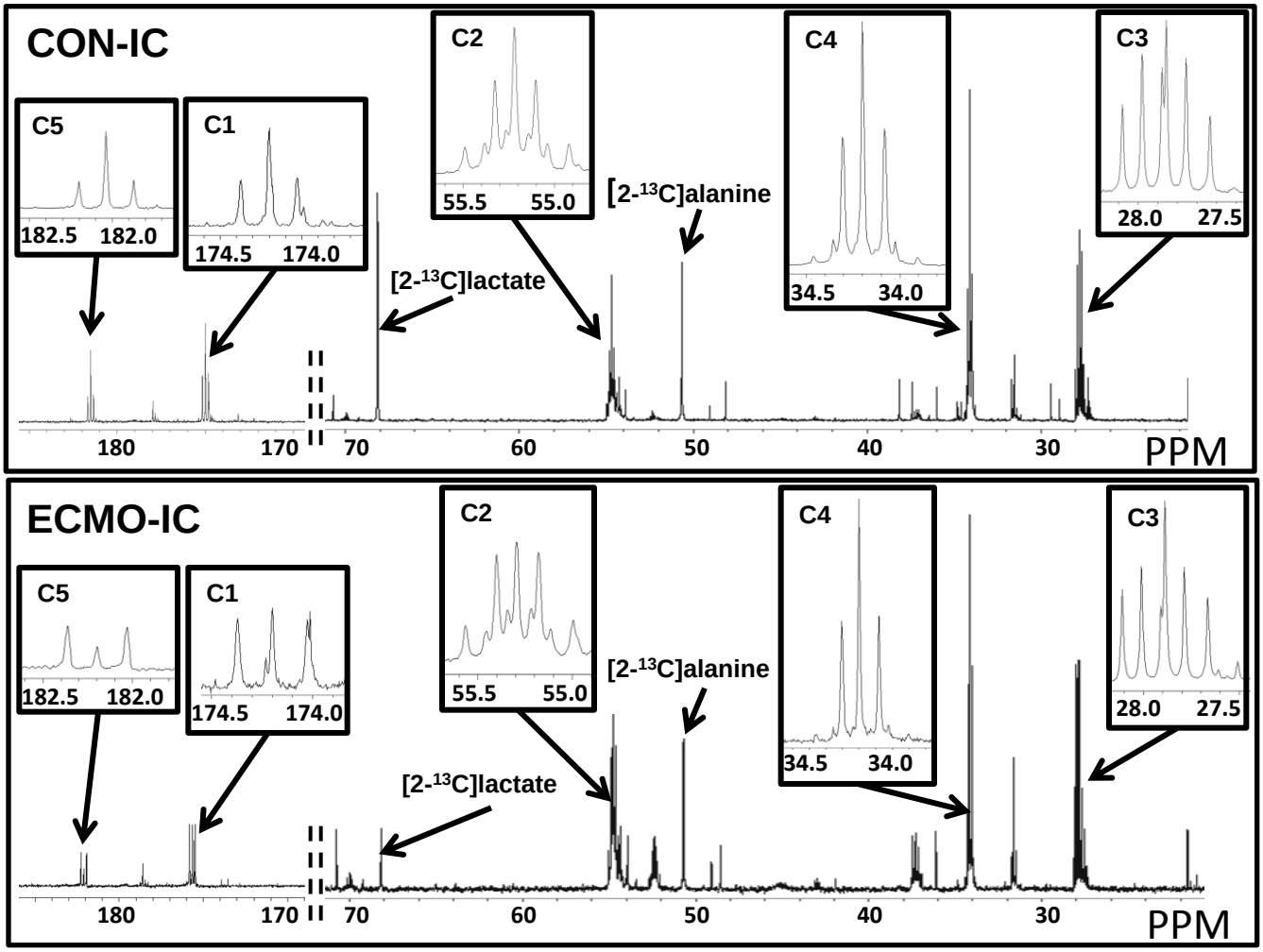
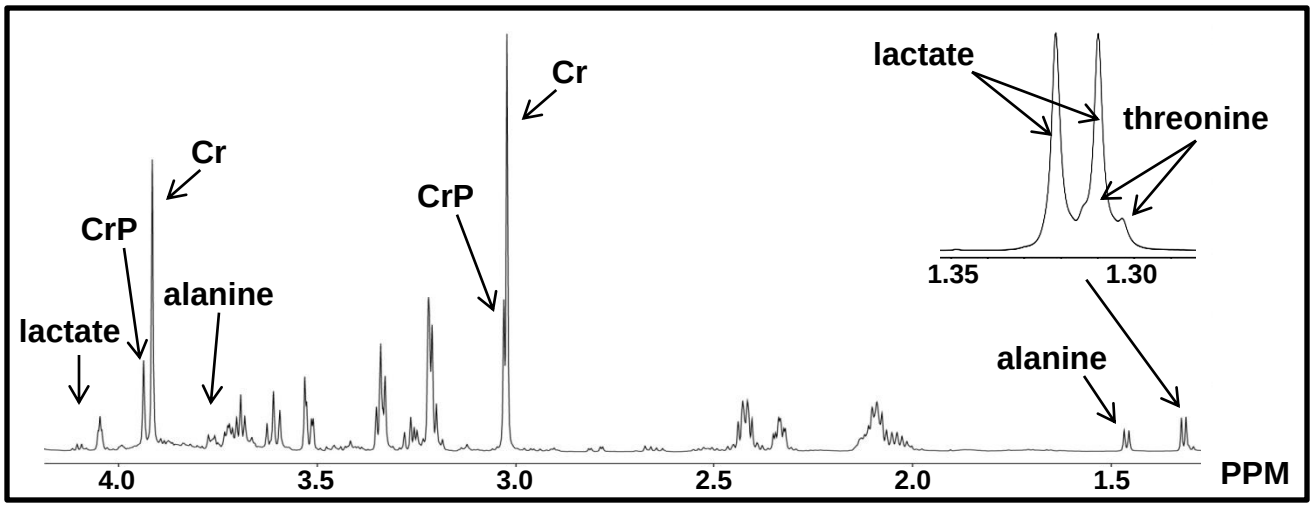
Supplemental Figure 1

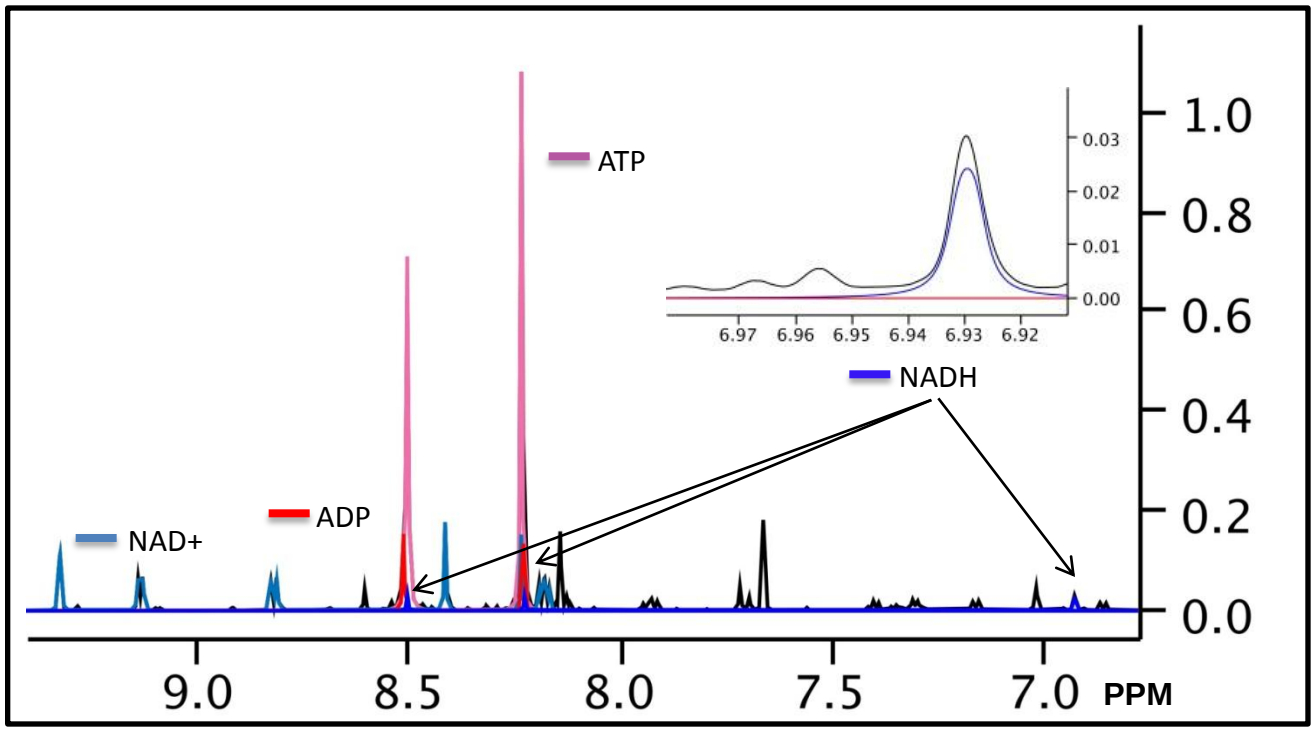


Supplemental Figure 2

A



B



Supplemental Figure Legends

Supplemental Figure 1. Typical ^{13}C-NMR spectra obtained from left ventricular extract after a 60-minute infusion of [2-^{13}C]lactate, [U-^{13}C]LFCAs and [2,4,6,8-$^{13}C_4$]octanoate into the left anterior descending coronary artery under Control and ECMO conditions. The spectra show adequate signal to noise ratio for peak integration. Chemical shifts in parts per million (ppm) were as follows: C1, 174.2; C2, 55.2; C3, 27.7; C4, 34.2; C5 of glutamate, 182.2; [2-13C]alanine, 51.9 and [2-13C]lactate, 69.2. Marked differences occur in glutamate peak complexes between the two conditions. Especially C5 in ECMO-IC shows decreased singlet peak area and increased doublet peak area compared to CON-IC, indicating increased LFCA oxidation with unloading. Additionally, the greater labeled alanine to lactate ration can be observed after 8 hours of ECMO.

Supplemental Figure 2. ^{1}H-NMR spectra obtained from left ventricular extract at the end of protocol. (A) ^{1}H-NMR spectra of alanine, lactate and Creatine phosphate (CrP) in the expanded 1.3–4.3 ppm region. (B) ^{1}H-NMR spectra of NAD, NADH, ATP and ADP in the expanded 6.8–9.5 ppm region. Each spectrally-separated spike was observable in this series of spectra. Typical spectra are shown.