Additional file 3: Blood chemistry calculations

Acid-base blood parameters (pH, pCO_2, HCO_3^-, BE, and Anion Gap) are temperature-dependent so values measured by the iSTAT at 37 °C (X_{37}) were corrected by the rectal temperature of the bat at the time of blood sample collection (T). The following equations were used to calculate temperature-corrected values (X_T):

1 $pH_T = pH_{37} – (T – 37)[\ 0.0146 + 0.0065(pH_{37} – 7.4)]$

2 $pCO_{2[T]} = pCO_{2[37]} \times 10^{[0.019(T – 37)]}$

3 $HCO_3^- = 10^{\ pH + \log10(PCO2) – 7.608}$

4 $BE = (HCO_3^- – 24.98) + [16.2 \times (pH – 7.4)]$

5 $\text{Anion Gap} = (Na^+ + K^+) – (Cl^- + HCO_3^-)$