**Supplementary Figure 1.** Representative raw data demonstrating the contribution of each transition to the total signal for OVOS2<sub>779</sub> in the EOC tissue sample (**A**) and OVOS2<sub>792</sub> in the EOC 5<sup>th</sup> time point (TP-5) plasma sample (**B**) complementary to the raw data in **Figure 4**. The ion abundance from each transition contributing to the overall signal used for computing absolute concentration of the protein are set to the same scale and magnified as denoted. The total combined signal from the transitions used for absolute quantification is inset to the right of each sample set with the endogenous signal in green and SIL signal in purple.

**Supplementary Figure 2.** Ion abundance of area under the curve (AUC) for the ratio of endogenous or natural (NAT) peptide to SIL peptide scaled to absolute concentration of OVOS2 across all time points and all samples, both plasma and tissue of the Healthy bird and EOC bird. The dashed grey line represents a signal to noise of 10. Less signal intensity was detected for OVOS2<sub>1017</sub> at each data point above the S:N value (rightmost column) corroborating the underestimation of OVOS2 compared to the concentration derived from the other two OVOS2 peptides.





Peptide