Localization of the Trace Elements Iron, Zinc and Selenium in Relation to Anatomical Structures in Bovine Ovaries by X-ray Fluorescence Imaging

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**SUPPLEMENTARY MATERIAL**



**Figure S1**: The concentrations of Fe and Zn at each pixel in the image presented in Figure 2. The color legend indicates the relative frequency of each combination of Fe and Zn. The green circle is the region of interest which corresponded to arterioles and capillaries shown in green in Figure 4a.



**Figure S2**: The concentrations of Fe and Zn at each pixel in the image presented in Figure 3. The color legend indicates the relative frequency of each combination of Fe and Zn. The green circle is the region of interest which corresponded to arterioles and capillaries shown in green in Figure 4b.

The 19 pairs of ovaries came from 19 different heifers, with one ovary per heifer being selected for subsequent sectioning and XRF imaging. 40 subsections were imaged across these 19 ovaries and a summary of the Fe and Zn concentrations of the key anatomical structures (captured within these subsections) is provided below.

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| **Table S1.** Mean (± SD) elemental concentrations of capillaries, arterioles and vessels as estimated by XRF imaging |
|  | n | Fe (ppm) | Zn (ppm) |
| Capillaries | 21 | 2 ± 6.2 | 18 ± 8.5 |
| Arterioles | 31 | 12 ± 17.4 | 21 ± 8.7 |
| Vessels | 22 | 58 ± 37 | 4 ± 4 |

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| **Table S2.** Mean (± SD) elemental concentrations of follicles as estimated by XRF imaging |
| Follicle classification | n | Fe (ppm) | Zn (ppm) |
| Healthy | 28 | 4.7 ± 4.9 | 9.6 ± 5.8 |
| Atretic | 22 | 3.8 ± 4.5 | 5.9 ± 5.1 |
| Regressed | 35 | 1.6 ± 2.5 | 3.4 ± 4.2 |