Supplemental Material To:

Relational Grounding Enables Scientifically Useful Multiscale Models

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Referred to under Example One
**Figure S2.** Graph representing the model equations (2)-(11) in the context of the integrated model including Figures 1 and 2 of [Garg and Balthasar]. Figure S3 shows the fully expanded graph of the model. Although the mathematical model and programmed implementation is fully flattened (non-hierarchical), the conceptual model as laid out in the paper and diagrams indicates the hierarchical structure in this graph. Each tissue breaks out into four distinct sub-models: Plasma, Lung, Liver, and Other. The Other of equations (9)-(11) indicates that all the other tissues are modeled the same: Muscle, Skin, Heart, GI, Spleen, and the "Other" in the diagram. The influence of each intra-tissue compartment on the terms in equations (2)-(11) is represented in this graph.