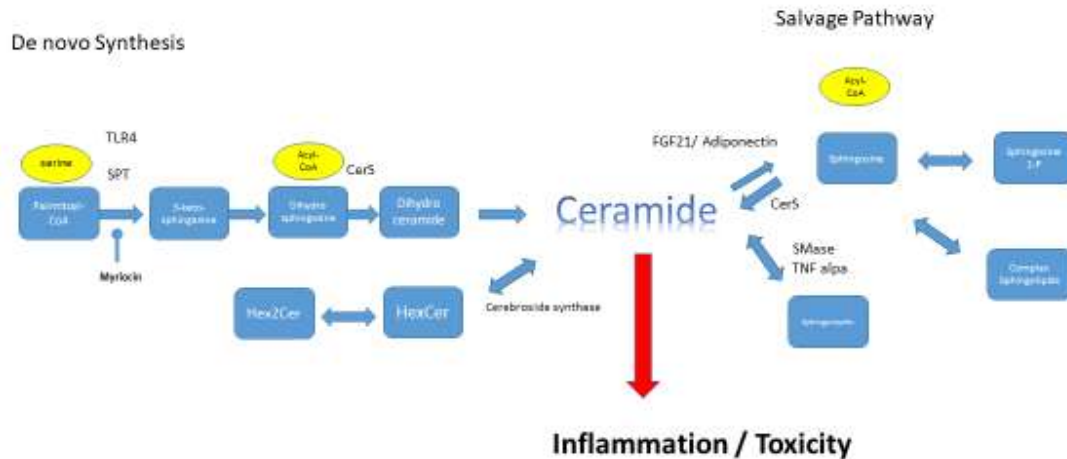


### Supplementary Figure 1. Subclass Compositions seen of each lipid class

Compositional comparison of the subclasses seen in each lipid class between Covid-19 infected with mild vs respiratory distress.

**Modulating Ceramide levels: Roles of SPT, CerS, Smase, FGF-21, Adiponectin and Cerebroside Synthase in the metabolism of Ceramides.**



**Supplementary Figure 2. Ways to modulate Ceramide levels**

Schematic illustration of models for both ceramide synthesis and clearing. Ceramides are synthesized de novo by reaction between Palmitate-CoA and serine mediated by SPT enzyme. The activity of this enzyme can be modified by activation of the TLR4 receptor and the fungal toxin, Myriocin. Salvage pathways are also mechanisms for synthesis and clearing of Ceramide's include pathway's involved in synthesis of sphingosine, sphingomyelin and Hex ceramides. Each of which are mediated by specific enzymes and factors such as FGF-21 and TNF-alpha that have been shown to be involved in its regulation