

## **Description of Additional Supplementary Files**

### **Supplementary Video 1 |**

Representative calcium imaging data of individual spheroids and highly interconnected MoNNet

### **Supplementary Video 2 |**

Representative calcium imaging data of MoNNets in three phases

### **Supplementary Video 3 |**

Representative calcium imaging data of isolated spheroids in three phases

### **Supplementary Video 4 |**

Representative calcium imaging data of older MoNNet samples

### **Supplementary Video 5 |**

Representative calcium imaging data before and after Bicuculine [10 $\mu$ M] treatment

### **Supplementary Video 6 |**

Representative calcium imaging data of controls for the pharmacological treatments

### **Supplementary Video 7 |**

Confocal z-stack movie visualizing the 3D cellular architecture of MoNNet

### **Supplementary Video 8 |**

Representative calcium imaging data from WT, Setd1a<sup>+/-</sup> and Df(16)A<sup>+/-</sup> MoNNets