



**Figure S1.** Product inhibition assays for *MtOPRT* catalyzed reaction, in presence of varied OMP concentrations. When varying PRPP (25-400  $\mu\text{M}$ ) and the product OMP (12-25  $\mu\text{M}$ ) at saturating concentration of OA (50  $\mu\text{M}$  – **upper right graph**) or varying OMP (3-12  $\mu\text{M}$ ) at non-saturating concentration of OA (6  $\mu\text{M}$  – **upper left graph**), mixed-type inhibitions were observed. For varying concentrations of substrate OA (6-75  $\mu\text{M}$ ) and product OMP (24-60  $\mu\text{M}$ ) in the presence of saturating concentration of PRPP (400  $\mu\text{M}$  – **lower right graph**), a noncompetitive inhibition profile was obtained. On the other hand, for varying concentrations of substrate OA (6-75  $\mu\text{M}$ ) and product OMP (6-25  $\mu\text{M}$ ) in the presence of non-saturating concentration of PRPP (50  $\mu\text{M}$  – **lower left graph**), a mixed-type inhibition was observed instead.