

**Table S1.** % PTP activity after SuTEx ligand treatment. Compounds are ordered by activity against SHP2.

**Table S2.** PTP peptides detected after DML189 treatment and tryptic digest (reducing)

**Table S3.** Fitness list for DML189 docking with SHP2 at Y279

**Table S4.** SHP peptides detected after DML189 treatment, tryptic digest, and EThcD (non-reducing)