Phospholipids Chiral at Phosphorus (1982-92). Tsai then brought the chiral phosphates into the field of phospholipids and developed a unique field "phospholipids chiral at phosphorus". His lab synthesized various chirally labeled phospholipids, and used them to study the mechanism of several enzymatic reactions, as well as biophysical properties of these lipid analogs at different physical states using various physical techniques. An important finding is that Rp and Sp isomers of the phosphorothioate analog of phospholipids display different physical properties at liquid crystal phases, which suggests that stereospecific interactions involving the phosphate group of phospholipids is an important factor in determining the physical properties of membranes. This subfield is truly one developed and dominated exclusively by Tsai and his associates. It also led Tsai into two projects involving phospholipid enzyemology: phospholipase A2 and PI-specific phospholipase C. Publications: #22, 23, 24, 25, 26, 29, 30, 31, 32, 35, 38, 39, 40, 41, 42, 45, 46, 49, 50, 51, 55, 58, 59, 61, 66, 68, 69, 77. (Note: Some papers can belong to PLA2, PLC, or PLD; the last has not been mentioned as a separate category.)


