Ultrafast Terahertz Kerr Effect (TKE) spectroscopy is a relatively new nonlinear THz technique that is sensitive to the orientational dynamics of anisotropic, condensed-phase samples. The sample is excited by a single high field strength ~1 picosecond THz pulse, and the resulting transient birefringence is measured by a ~40 femtosecond 800 nm probe pulse. We have measured the TKE response of several aromatic liquids at room temperature, including benzene, benzene-d6, hexafluorobenzene, pyridine, and toluene. The measured decay constants range from ~1-10 ps, and, along with previous optical Kerr effect results in the literature a, give insights into intermolecular interactions in these liquids.