Mixed clusters of protonated benzene and water are created via arc discharge in a molecular beam cluster source. Infrared spectroscopy (1000 cm\(^{-1}\) to 4500 cm\(^{-1}\)) of these mixed clusters H\(^+\)(H\(_2\)O)\(_x\)(Bz)\(_y\) (x=1-4, y=1-4) tagged with argon is employed to investigate the structures of these clusters, particularly with regards to the location of the proton. Studies as a function of cluster size investigate solvation effects within the mixed clusters.