Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

Supporting Information

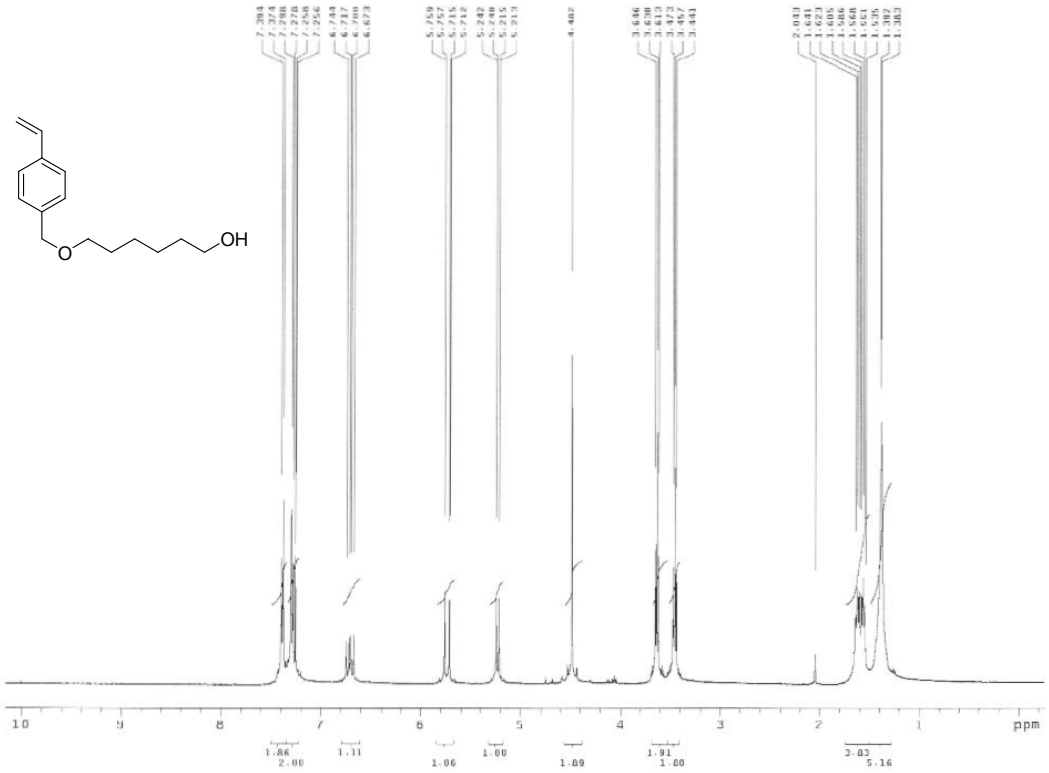
One Molecule of Ionic Liquid and *tert*-Alcohol on Polystyrene-Support as Catalysts for Efficient Nucleophilic Substitution Including Fluorination

Sandip S. Shinde* Sunil N. Patil

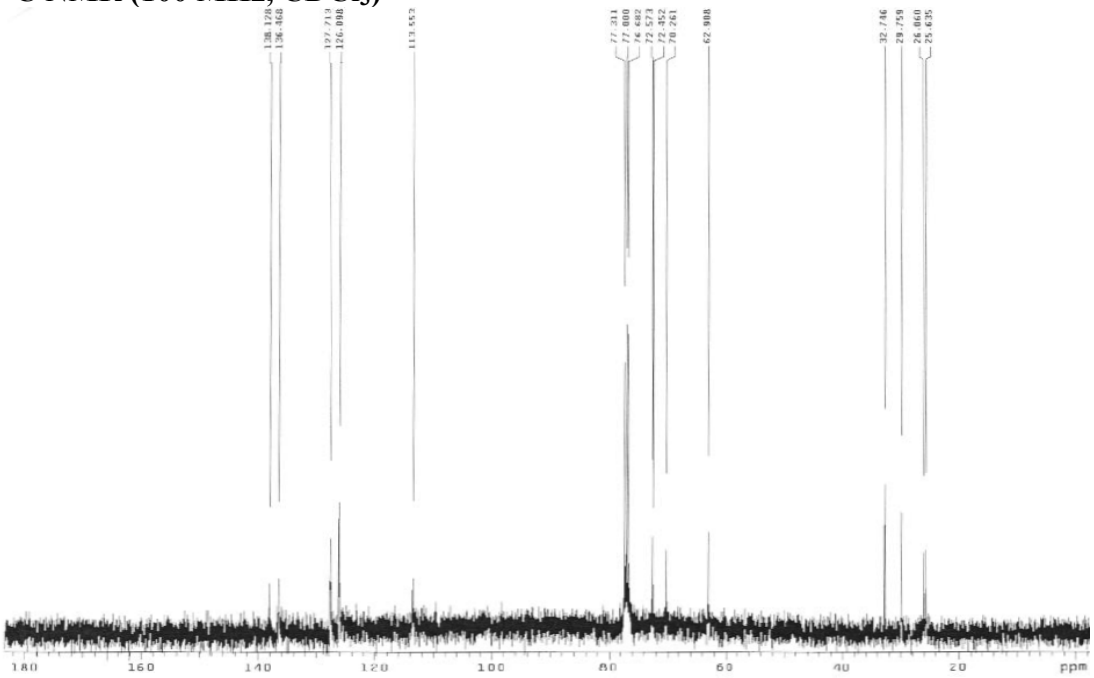
*Organic Chemistry Division, National Chemical Laboratory, Dr. Homi Bhabha Road, Pune-411008, India.

Email: ss.shinde@ncl.res.in

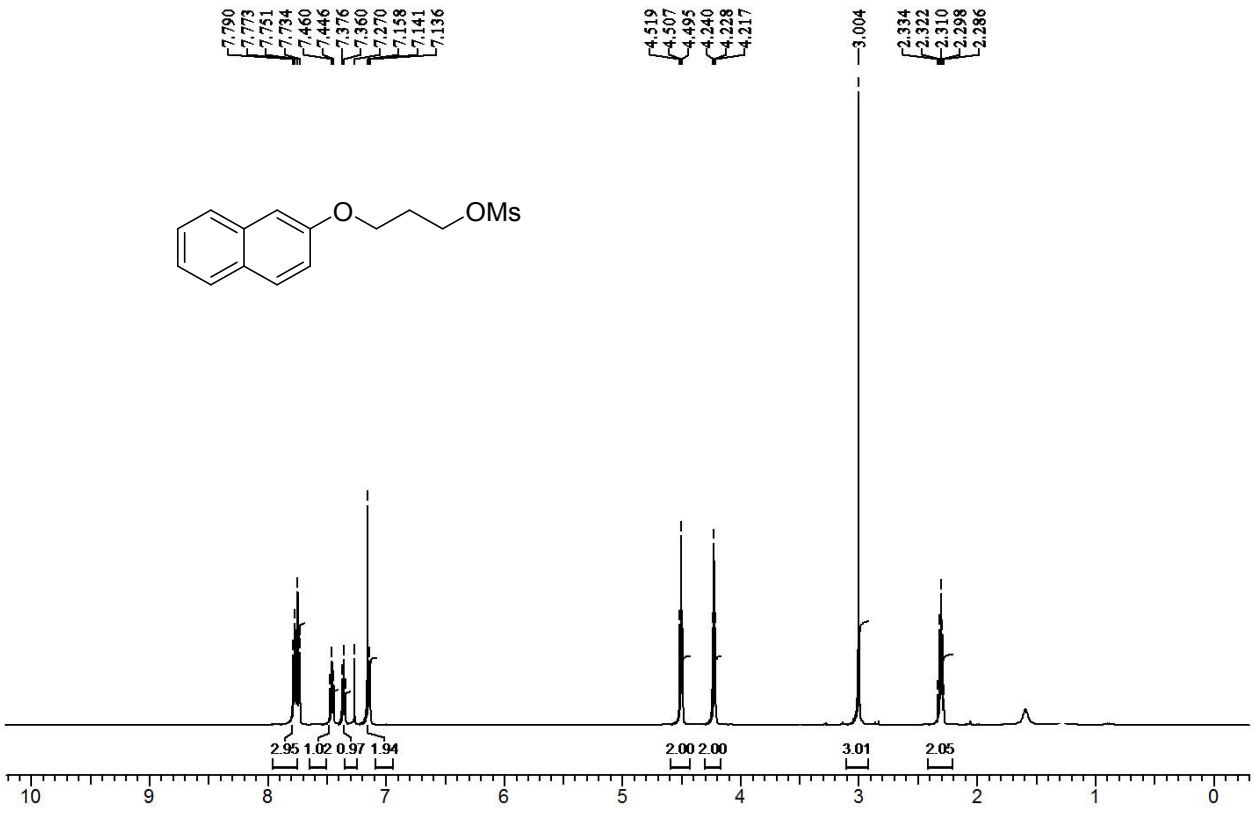
6-(4-Vinylbenzyloxy)hexanol. ^{1}H (400MHz, $CDCl_3$)



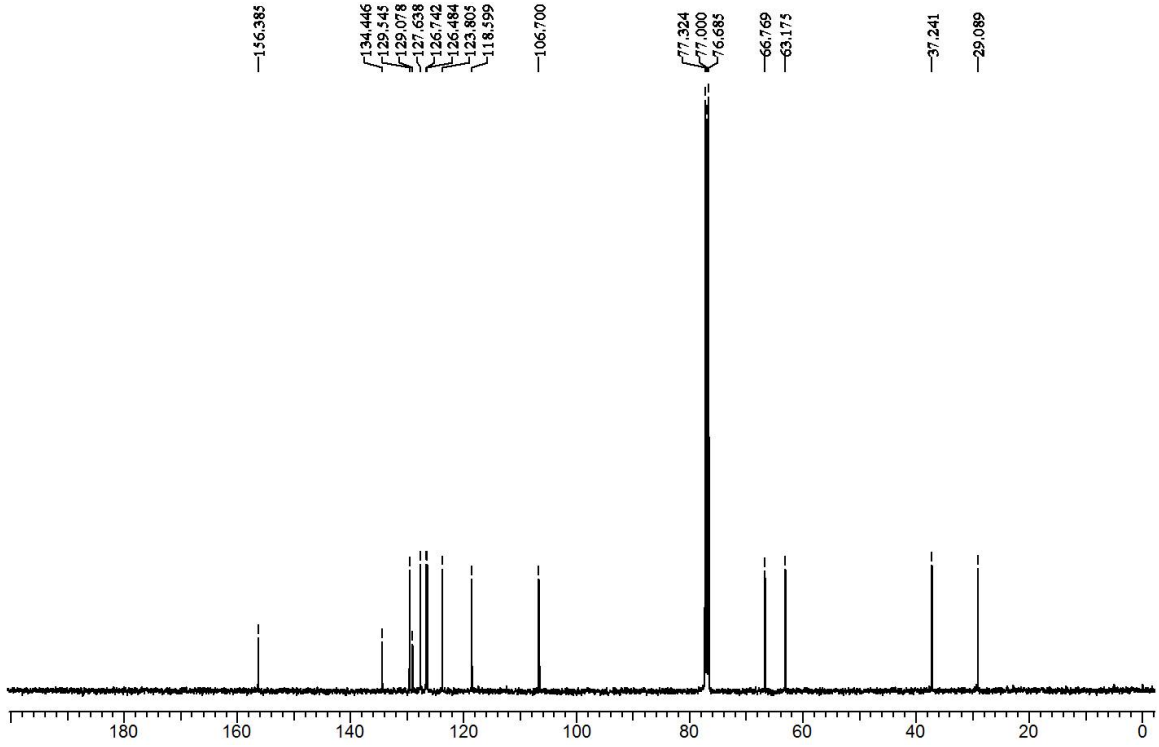
^{13}C NMR (100 MHz, $CDCl_3$)



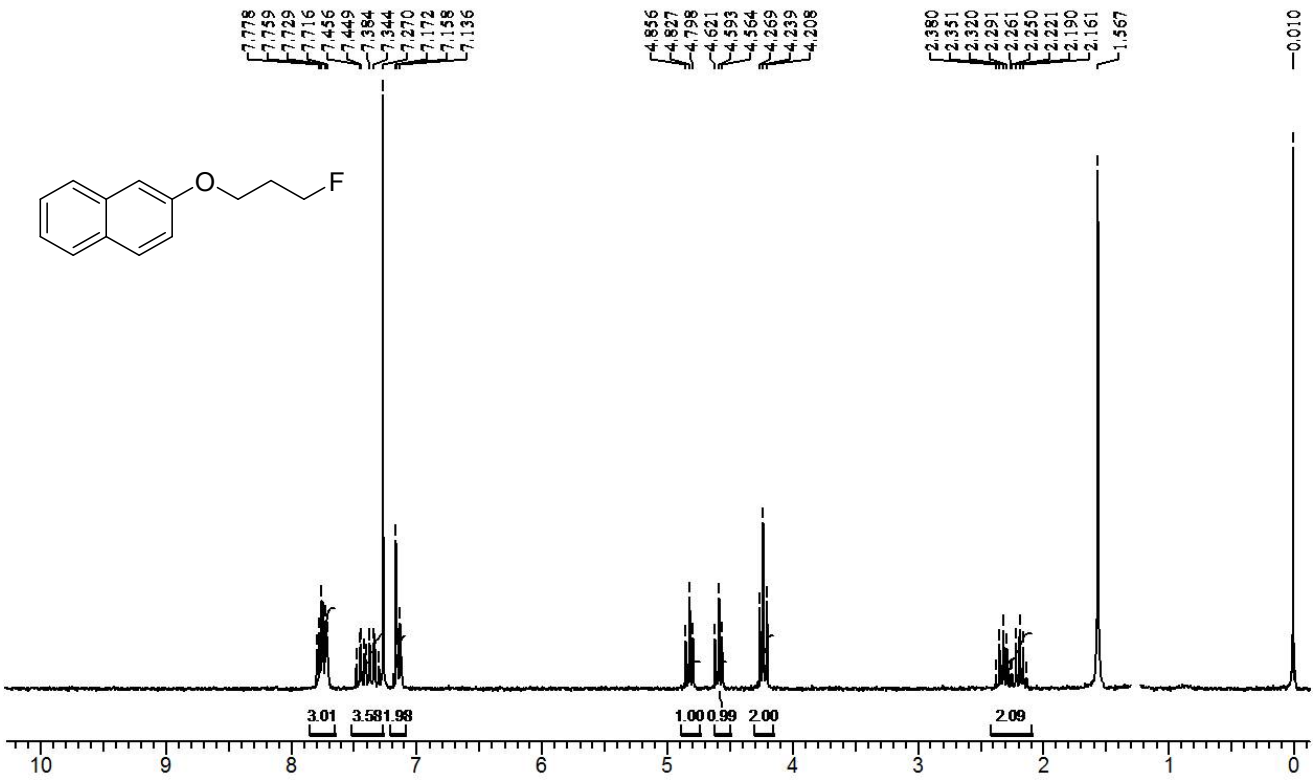
2-(3-Methanesulfonyloxy-*n*-propoxy)naphthalene (7) ^{1}H NMR (500 MHz, $CDCl_3$)



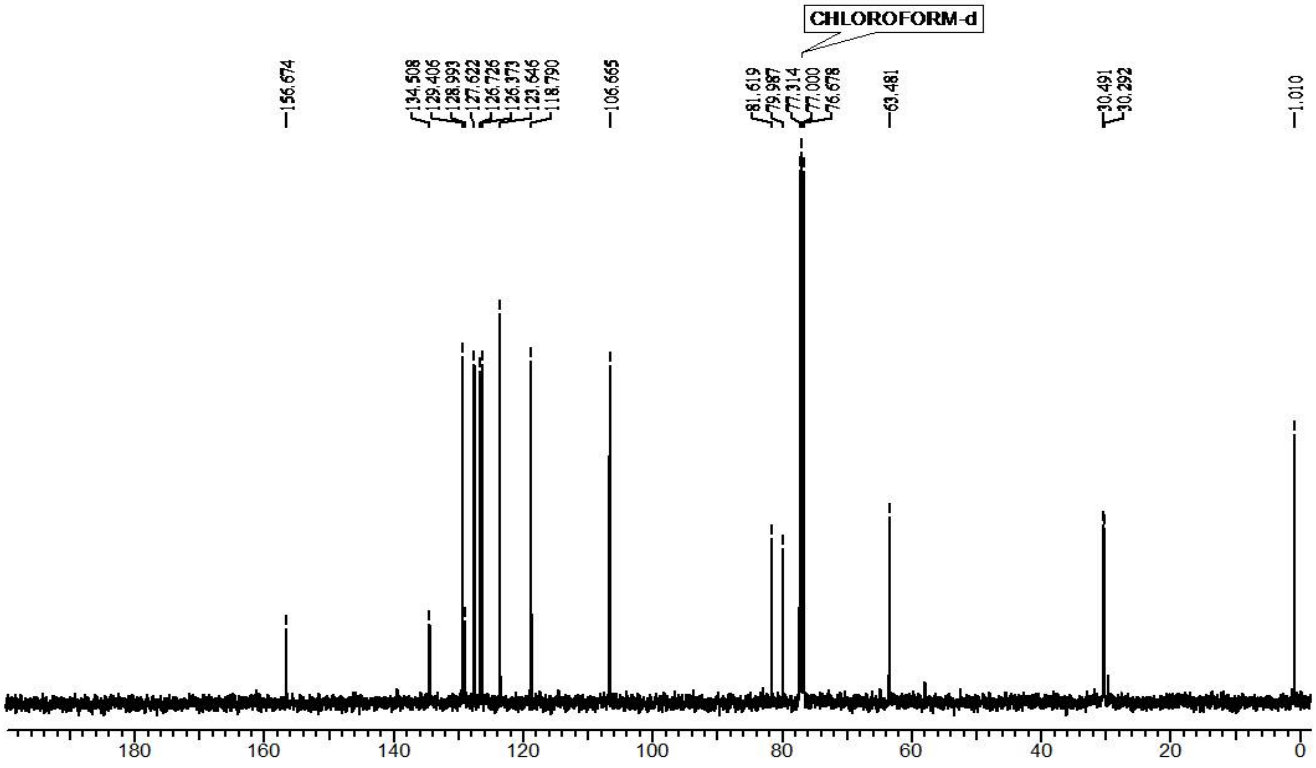
^{13}C NMR (100 MHz, $CDCl_3$)



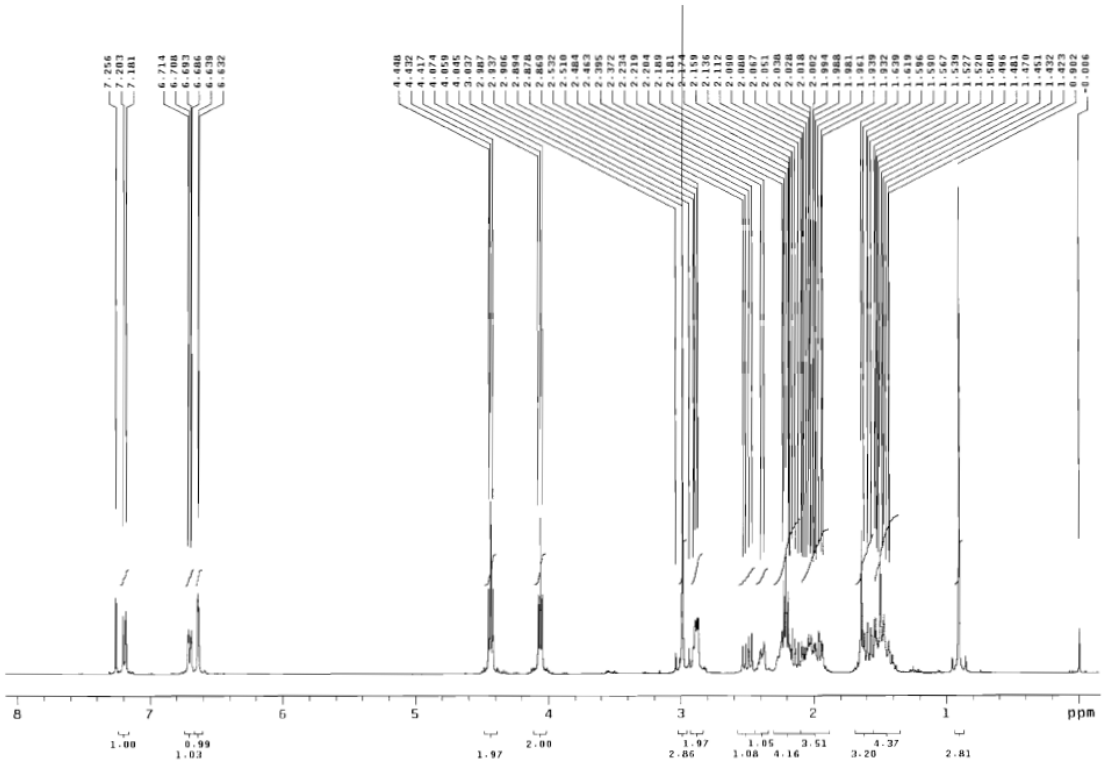
2-(3-fluoro-*n*-propoxy)naphthalene (8) ^{1}H NMR (200 MHz, $CDCl_3$)

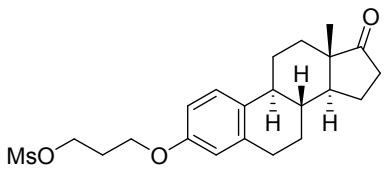


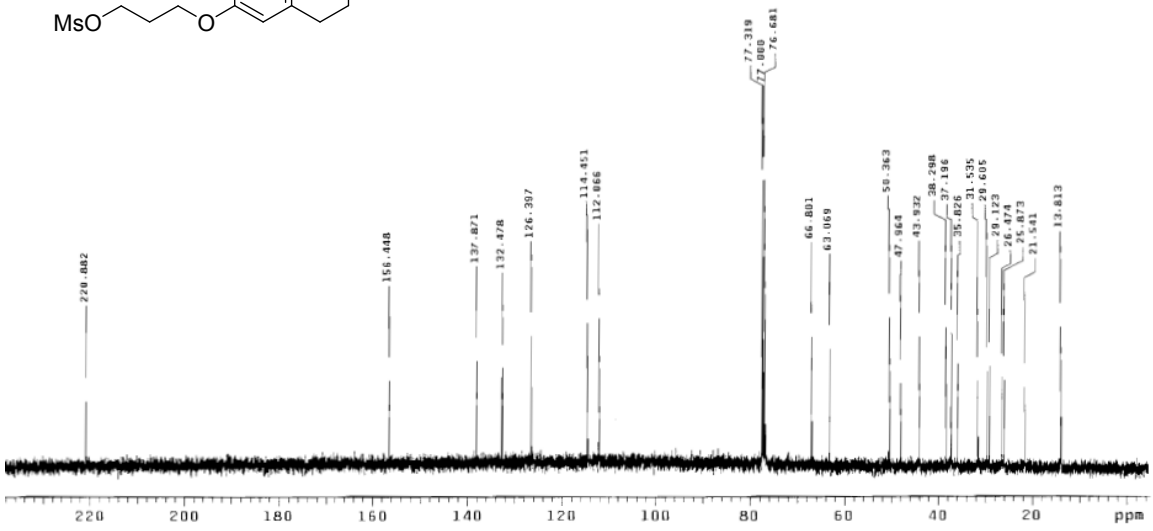
^{13}C NMR (100 MHz, $CDCl_3$)



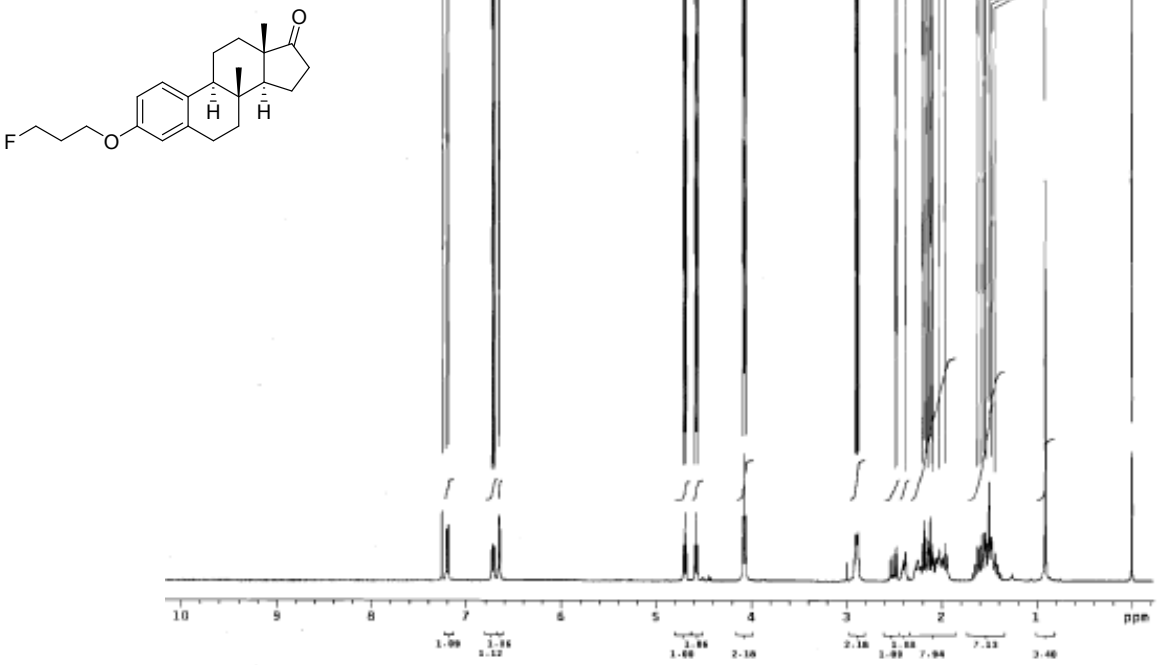
3-*O*-(3-Methanesulfonylpropyl)estrone (10)

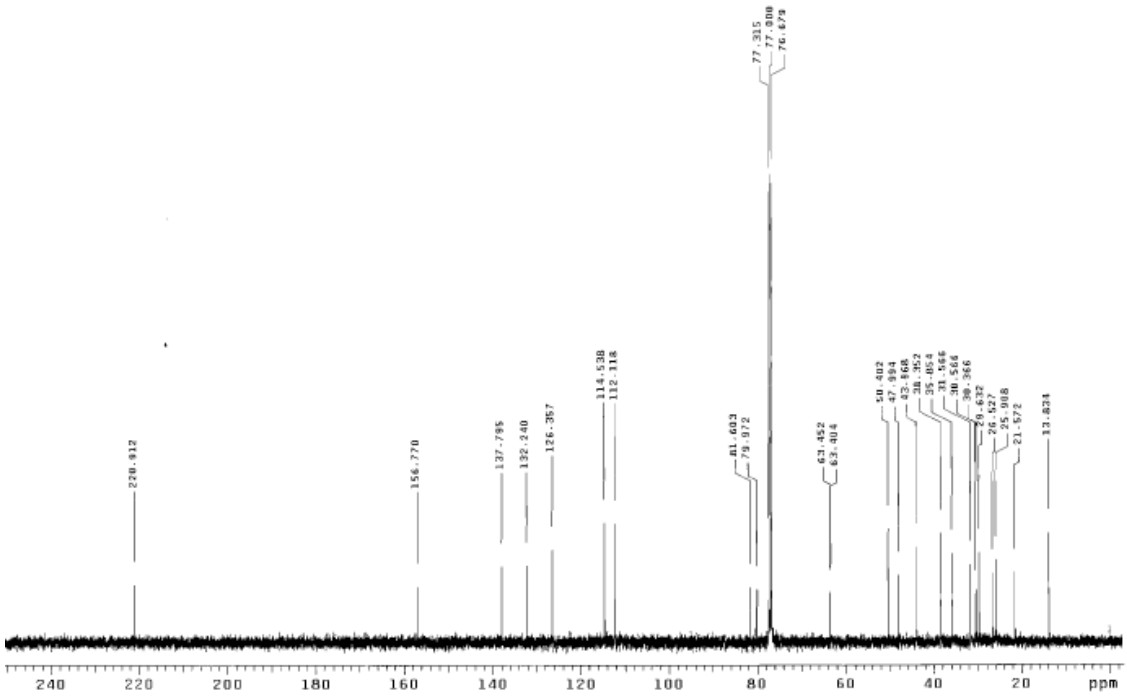




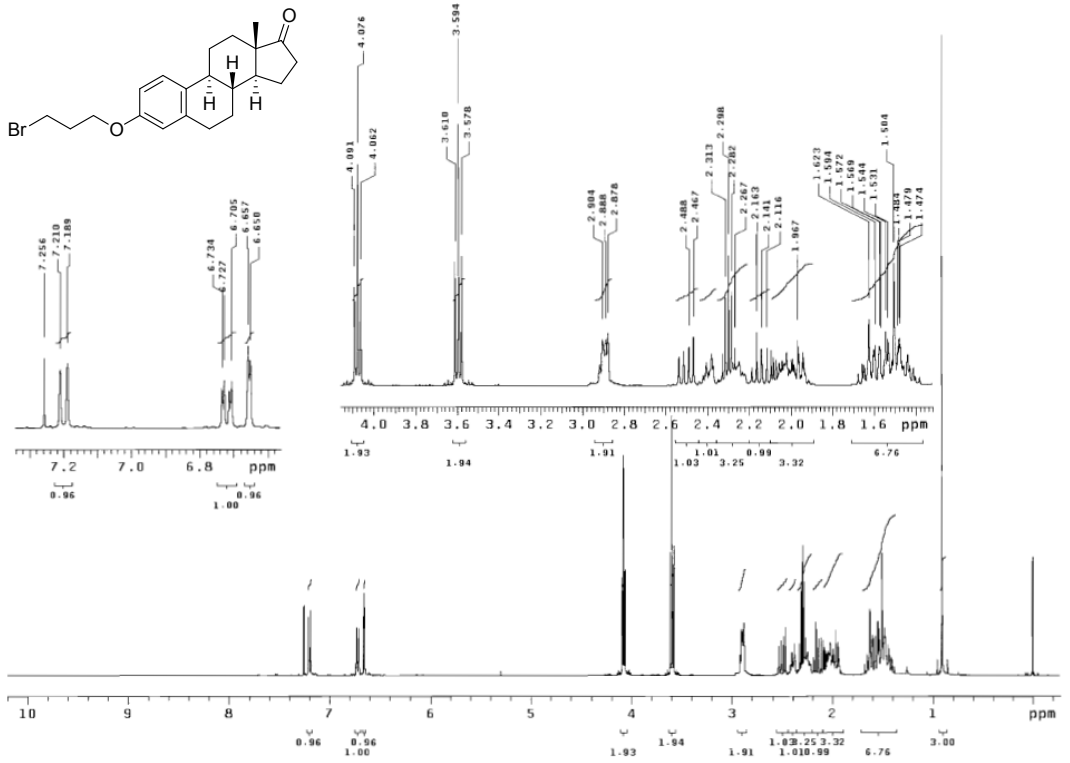


3-*O*-(3-Fluoropropyl)estrone (11), ^{1}H NMR (400 MHz, $CDCl_3$)

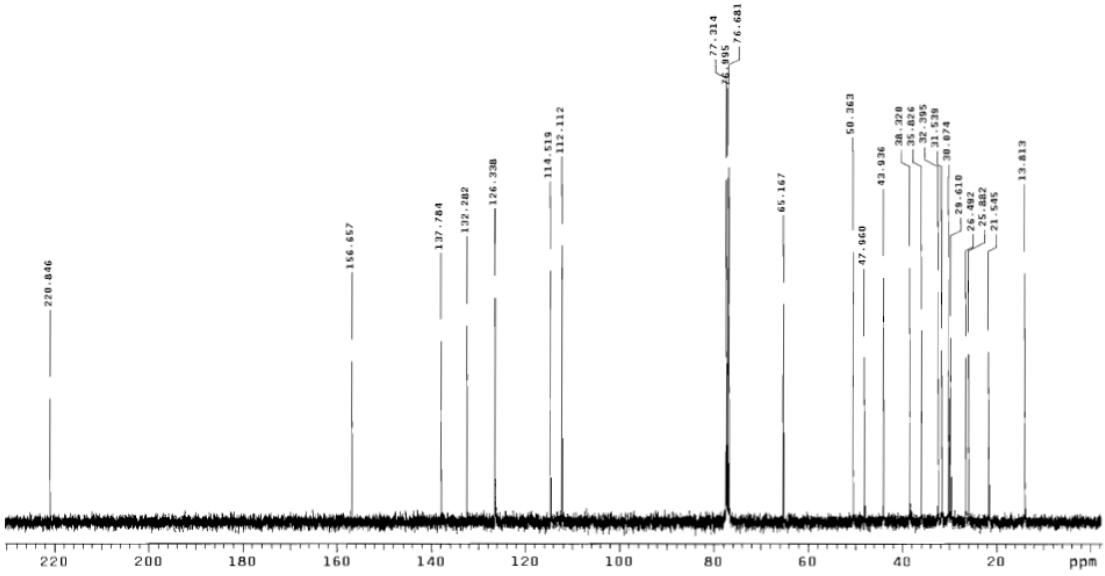




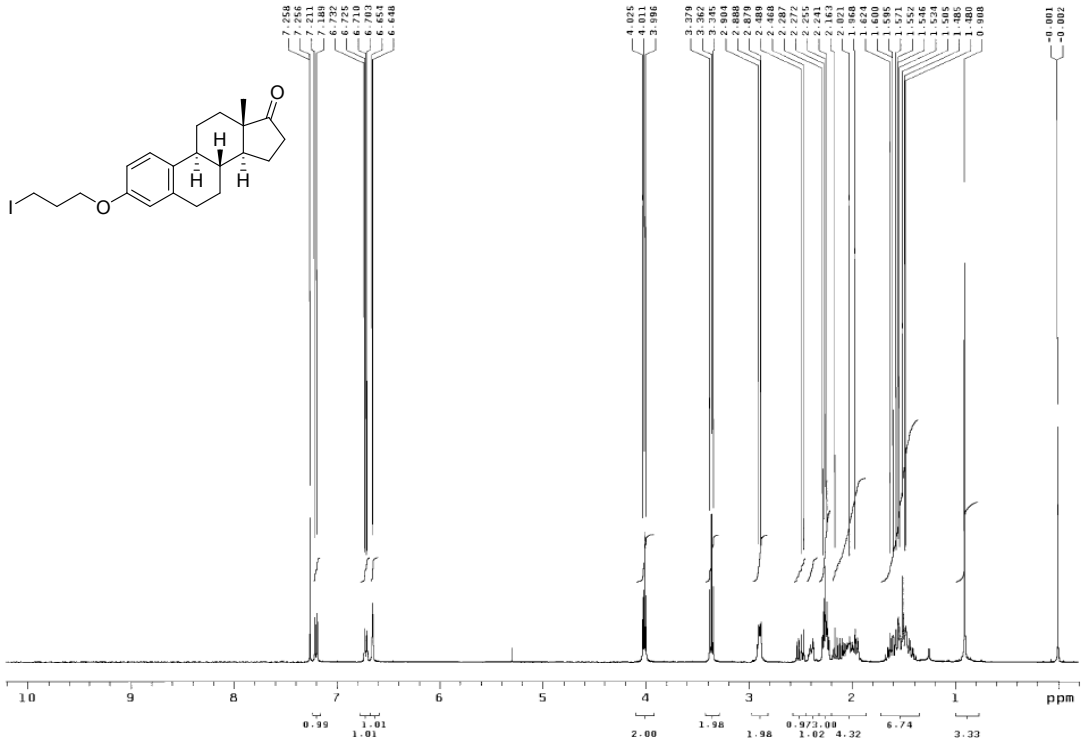
3-*O*-(3-Bromopropyl)estrone (12), ^{1}H NMR (400 MHz, $CDCl_3$)



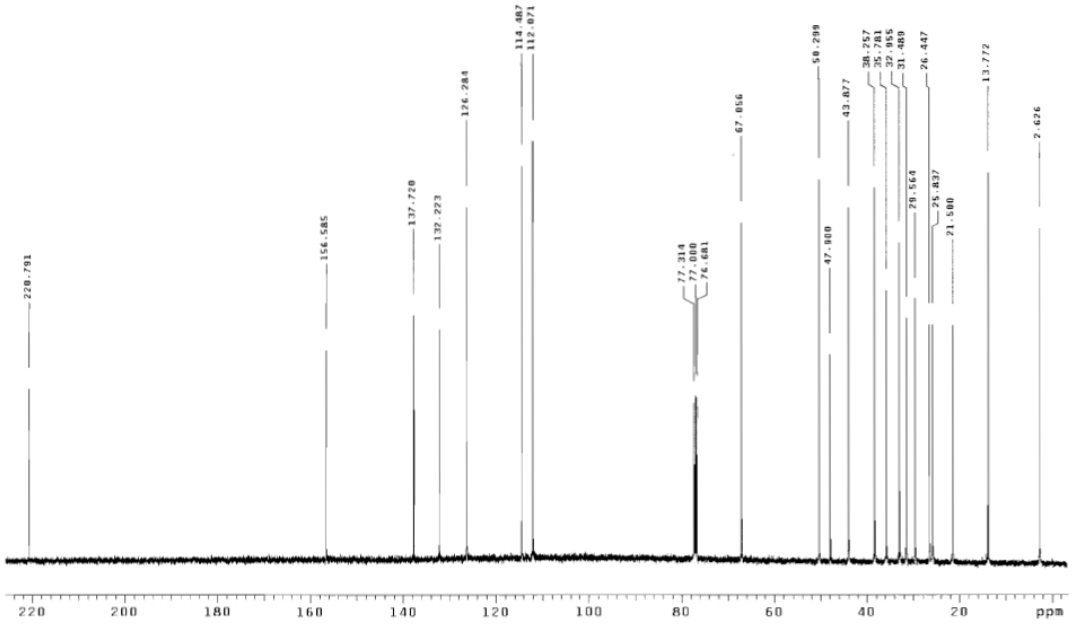
^{13}C NMR (100 MHz, $CDCl_3$)



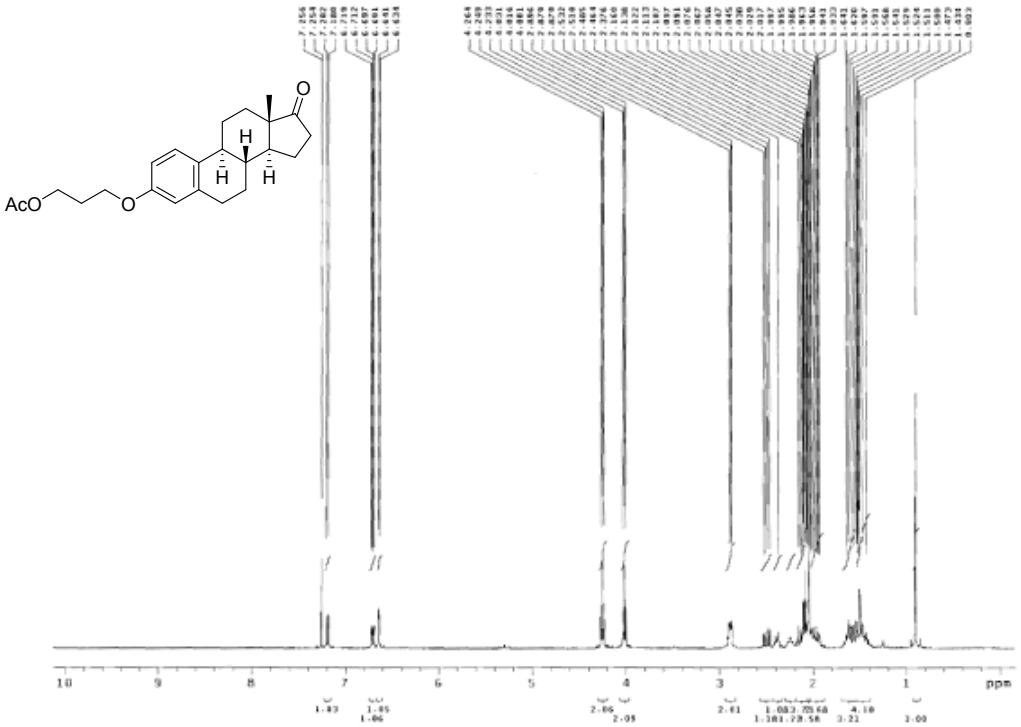
3-*O*-(3-Iodopropyl)estrone (13), ^{1}H NMR (400 MHz, $CDCl_3$)



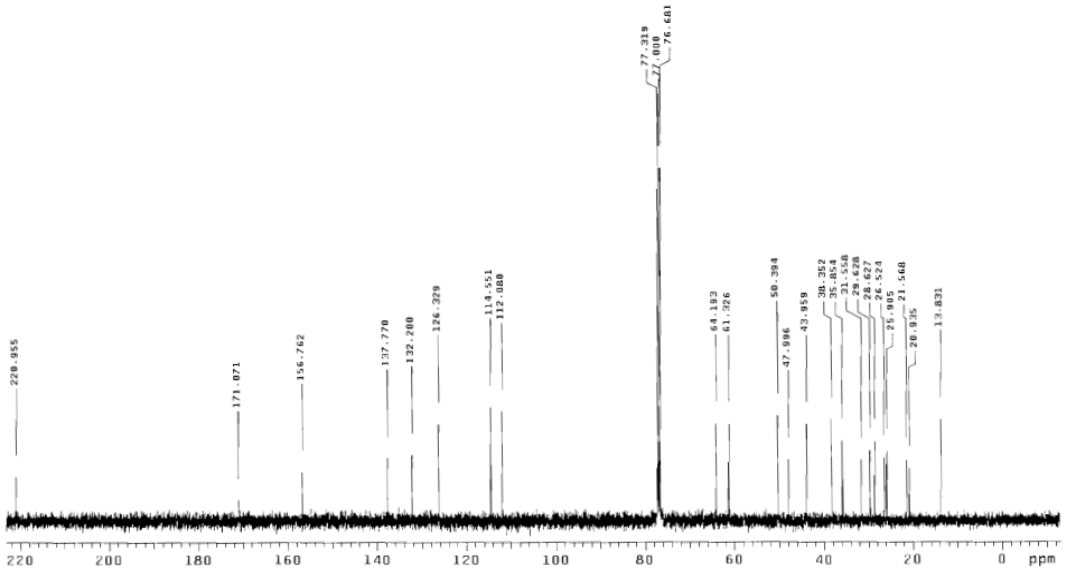
^{13}C NMR (100 MHz, $CDCl_3$)



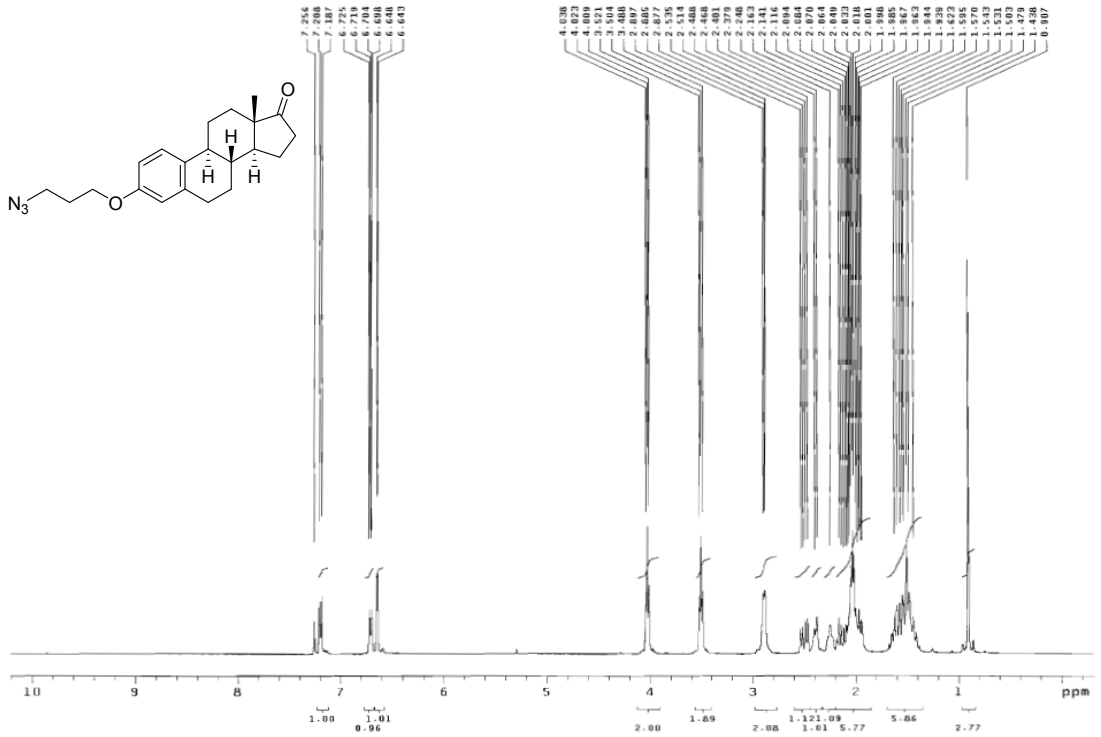
3-*O*-(3-Acetoxypropyl)estrone (14), ^{1}H NMR (400 MHz, $CDCl_3$)



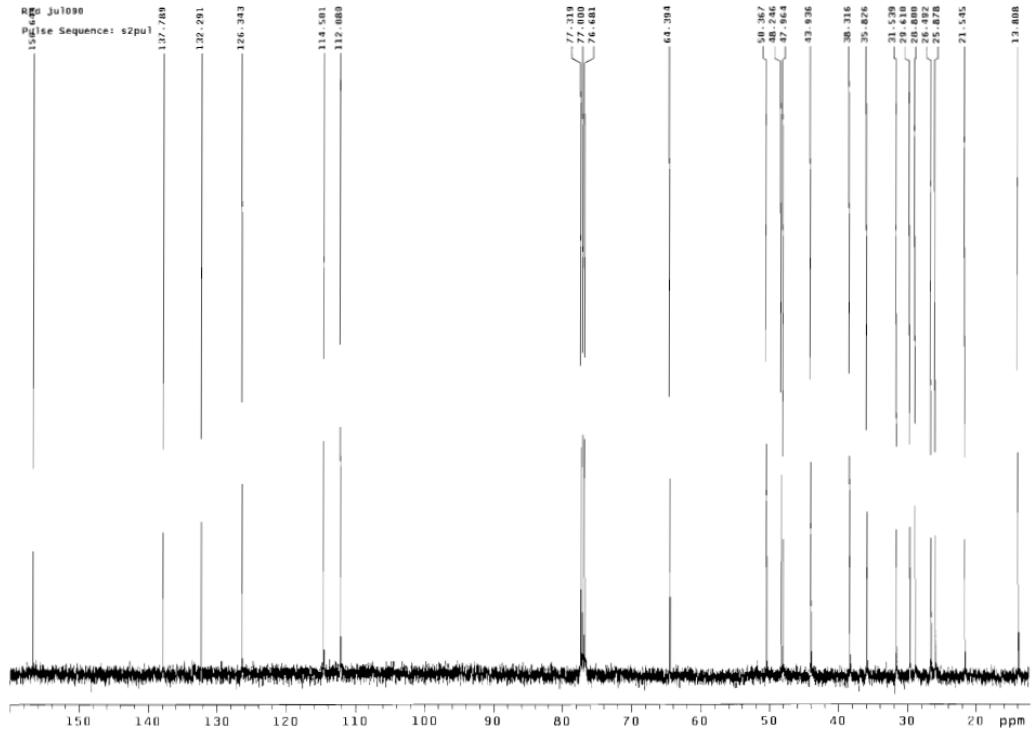
^{13}C NMR (100 MHz, $CDCl_3$)



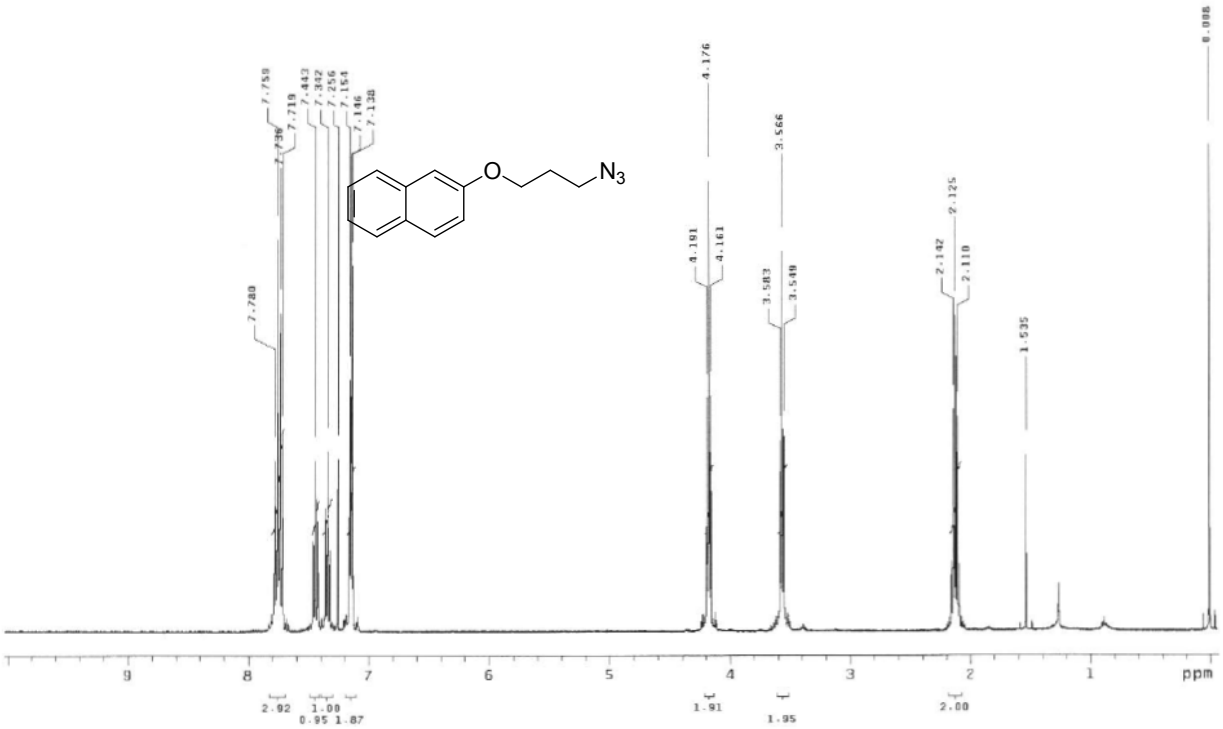
3-*O*-(3-Azidopropyl)estrone (15), ^{1}H NMR (400 MHz, $CDCl_3$)



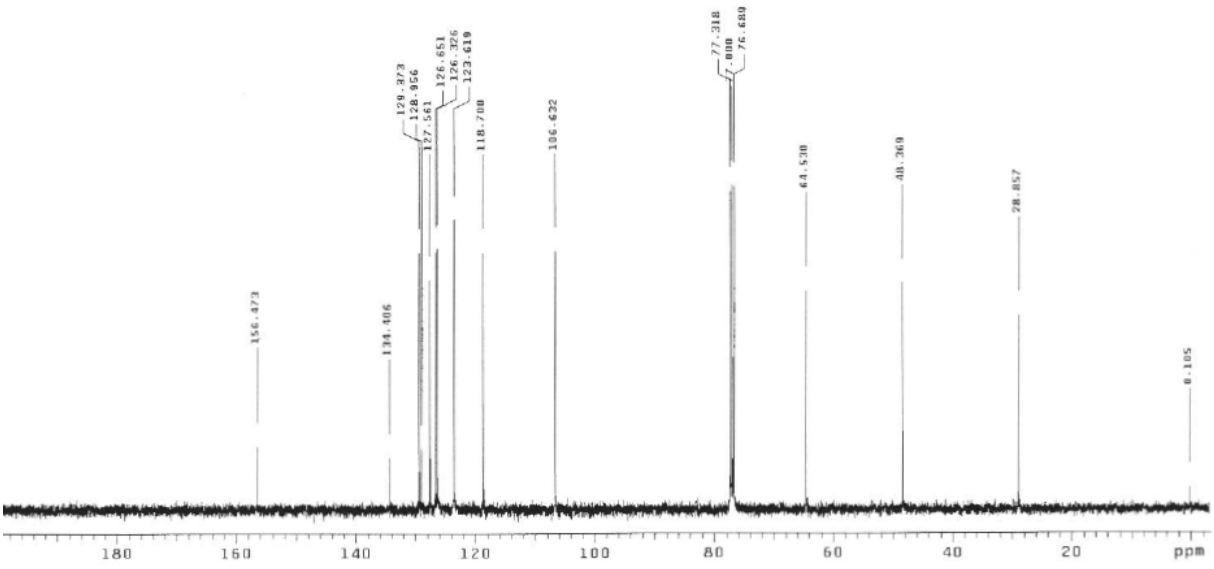
^{13}C NMR (100 MHz, $CDCl_3$)



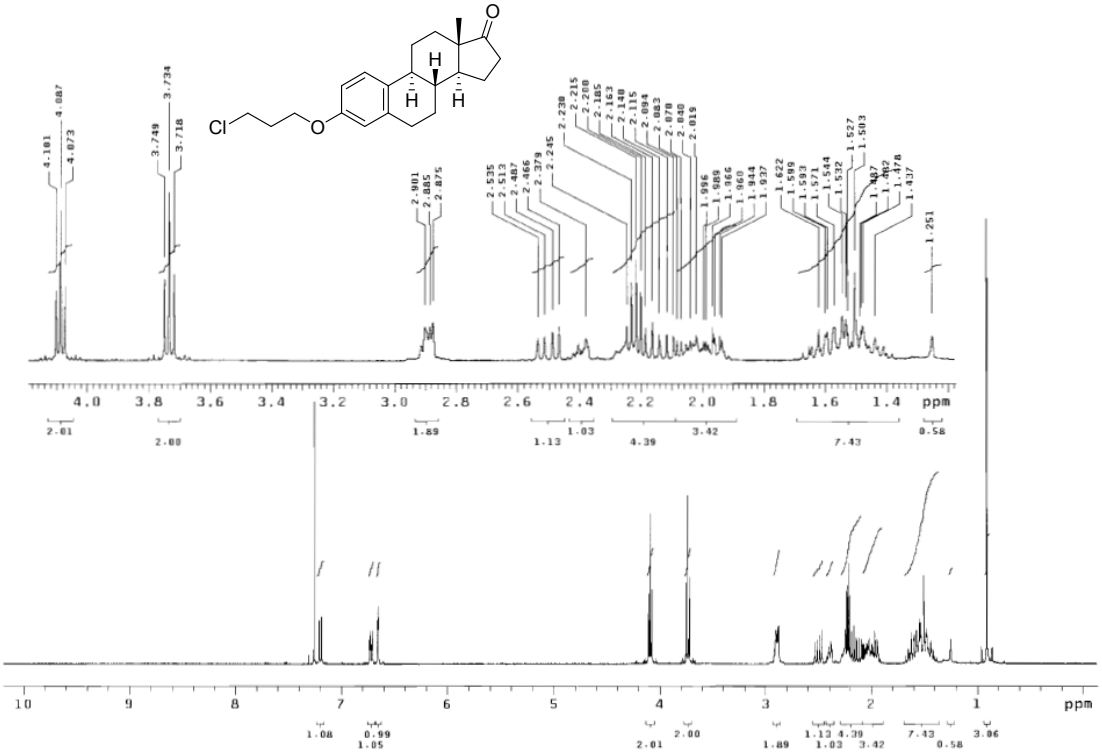
2-(3-Azido-*n*-propoxy)naphthalene (entry 2, Table 5), ^{1}H NMR (400 MHz, $CDCl_3$)



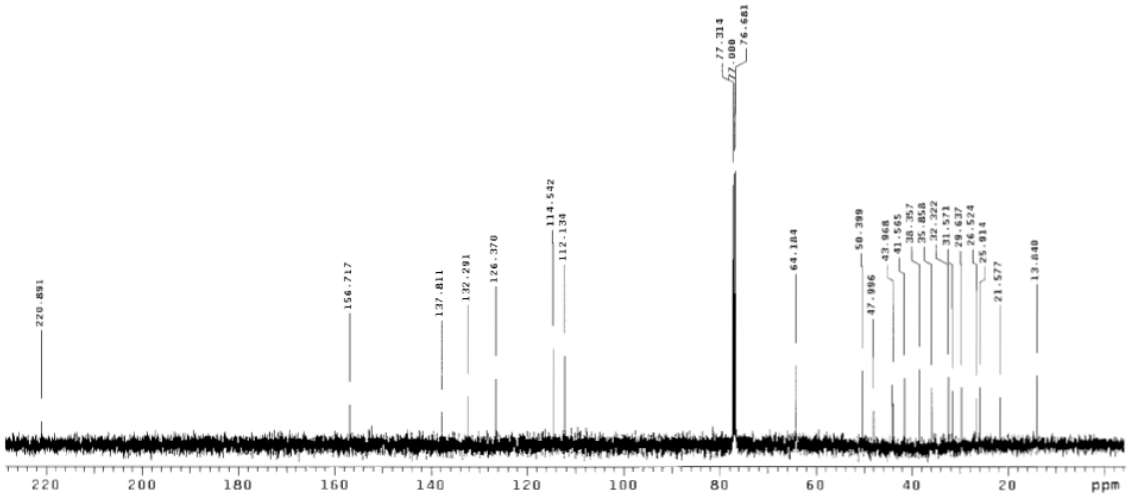
^{13}C NMR (100 MHz, $CDCl_3$)



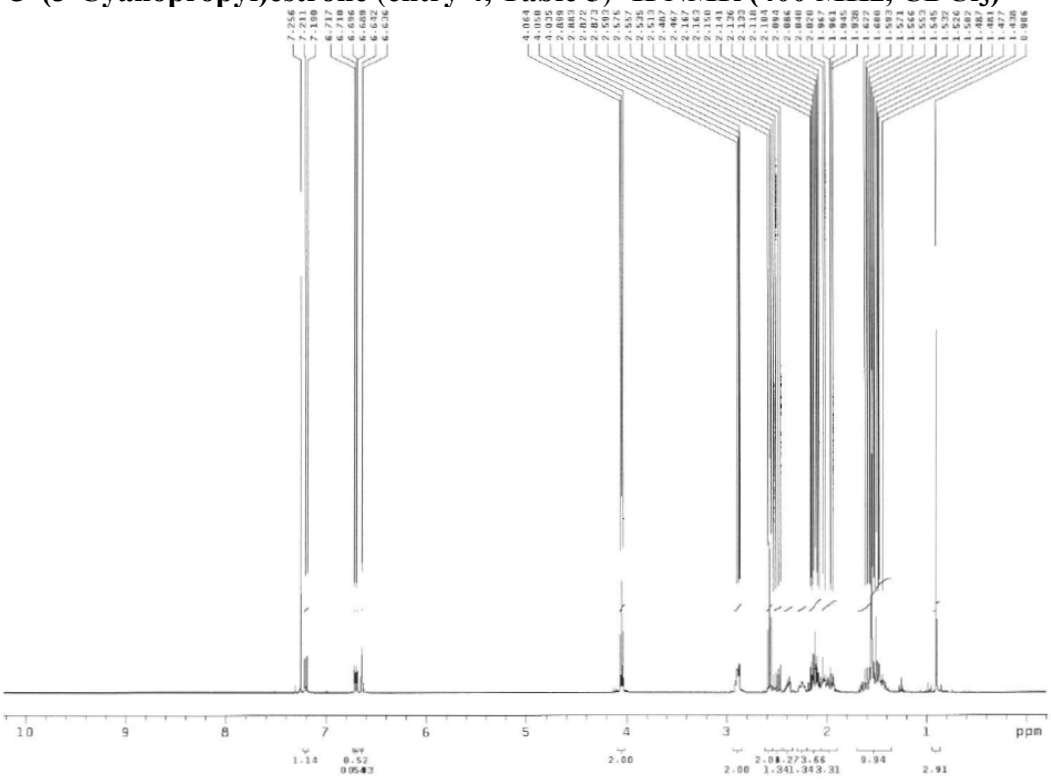
3-*O*-(3-Chloropropyl)estrone (entry 3, Table 5), ^{1}H NMR (400 MHz, $CDCl_3$)

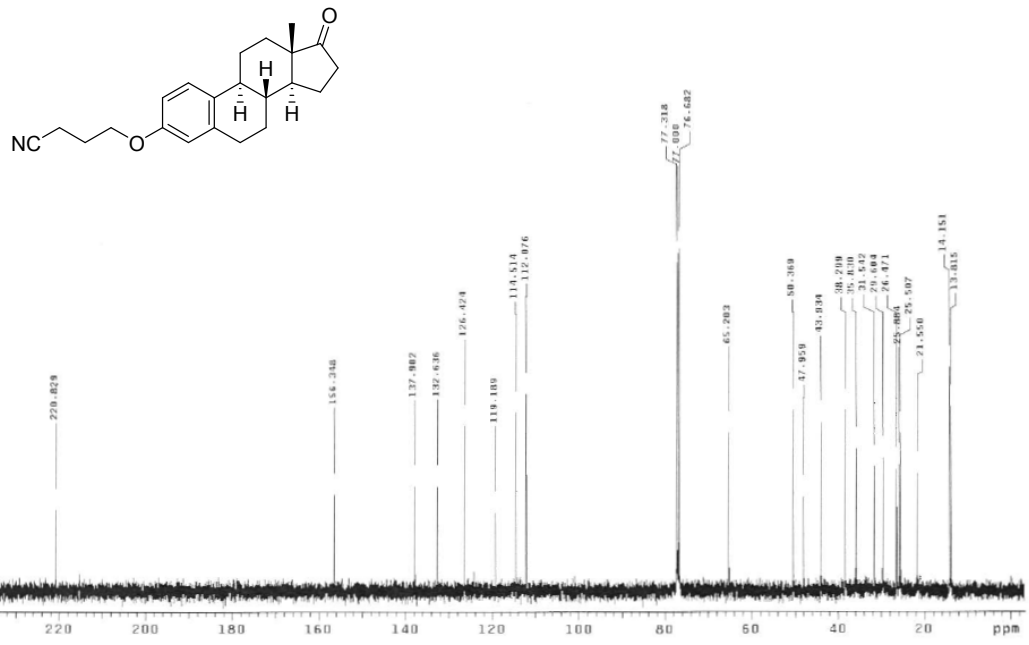


^{13}C NMR (100 MHz, $CDCl_3$)



3-*O*-(3-Cyanopropyl)estrone (entry 4, Table 5) ^{1}H NMR (400 MHz, $CDCl_3$)





2-(2-Fluoro-*n*-propoxyl)naphthalene (entry 5, Table 5), ^{1}H NMR (400 MHz, $CDCl_3$)