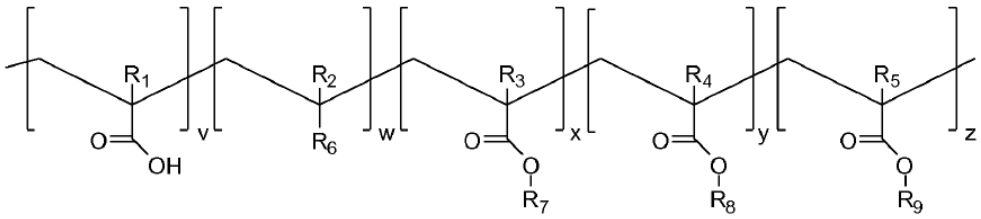
We claim:

1. Negative working photosensitive photoresist composition comprising:

a) at least one polymer comprising a structure of the following formula:



wherein $\underline{R_1}$ ~~Ri~~ -R_5 is independently H, F or CH_3, R_6 is selected from a group consisting of a substituted aryl, unsubstituted aryl, substituted heteroaryl group and substituted heteroaryl group, R_7 is a substituted or unsubstituted benzyl group, R_8 is a linear or branched C_2- ~~Ci$_0$~~ $\underline{C_{10}}$ hydroxy alkyl group or a C_2- ~~$C_1$0~~ $\underline{C_{10}}$ hydroxy alkyl acrylate and ~~Rg~~ $\underline{R_9}$ is an acid cleavable group, v=10-40 mole %, w=0-35 mole %, x=0-60 mole %, y=10-60 mole % and where z is present and ranges up to 45 mole %,

b) one or more free radical initiators activated by actinic radiation,

c) one or more crosslinkable acrylated monomers capable of undergoing free radical crosslinking wherein the acrylate functionality is greater than 1, and

d) a solvent.

2. The negative working photosensitive photoresist composition of claim 1, wherein R_9 is an acid cleavable group chosen from a t-butyl group, a tetrahydropyran-2-yl group, a tetrahydrofuran-2-yl group, a 4-methoxytetrahydropyran-4-yl group, a 1-ethoxyethyl group, a 1-butoxyethyl group, a 1-propoxyethyl group, a 3-oxocyclohexyl group, a 2-methyl-2-adamantyl group, a 2-ethyl-2-adamantyl group, a 8-methyl-8-

tricyclo[5.2.1.0 2,6]decyl group, a 1,2,7,7-tetramethyl-2-norbornyl group, a 2-acetoxymenthyl group, a 1-methyl-1-cyclohexylethyl group, a 4-methyl-2-oxotetrahydro-2H-pyran-4-yl group, a 2,3-dimethylbutan-2-yl group, a 2,3,3-trimethylbutan-2-yl group, a 1-methyl cyclopentyl group, a 1-ethyl cyclopentyl group, a 1-methyl cyclohexyl group, 1-ethyl cyclohexyl group, a 1,2,3,3-tetramethylbicyclo[2.2.1]heptan-2-yl group, a 2-ethyl-1,3,3-trimethylbicyclo[2.2.1]heptan-2-yl group, a 2,6,6-trimethylbicyclo[3.1.1]heptan-2-yl group, a 2,3-dimethylpentan-3-yl group, or a 3-ethyl-2-methylpentan-3-yl group.

3. The negative working photosensitive photoresist compositions of claim 1, wherein the composition is capable of being solubilized in aqueous alkaline developer prior to crosslinking the acrylate monomers.

4. The negative working photosensitive photoresist composition of claim 1, further comprising at least one polymer comprising the reaction product of at least one acid containing monomer and optionally styrene, or the reaction product of maleic anhydride and styrene, said anhydride reaction product being further partially esterified with an alcohol.

5. The negative working photosensitive photoresist composition of claim 1, wherein R_6 is phenyl and ~~Re~~ R_8 is 2-hydroxyethyl, 2-hydroxypropyl, 2-hydroxybutyl or 2-hydroxypentyl.

6. The negative working photosensitive photoresist composition of claim 1, further comprising one or more crosslinkable acrylated siloxane or acrylated silsesquioxane based monomers capable of undergoing free radical crosslinking wherein the acrylate functionality is greater than 1.

7. The negative working photosensitive photoresist composition of claim 6, wherein ~~Rg~~ R_9 is an acid cleavable group chosen from a t-butyl group, a