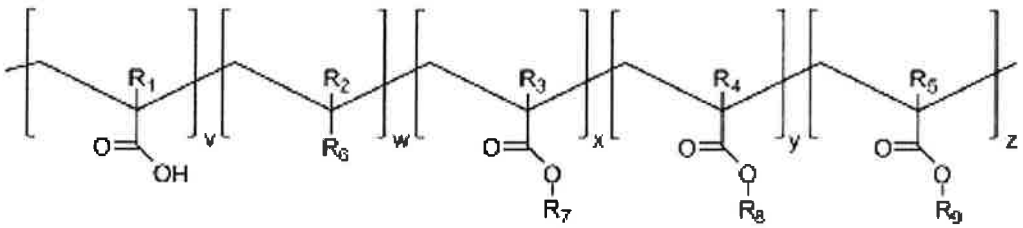
We claim:

1. Negative working photosensitive photoresist composition comprising:

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



wherein 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 hydroxy alkyl group or a C_2-$C_1$0 hydroxy alkyl acrylate and Rg is an acid cleavable group, v = 10 - 40 mole%, w = 0 - 35 mole%, x = 0 - 60 mole%, y = 10 - 60 mole% and ~~z = 0 - 45 mole%;~~ 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 2-hydroxymethyl 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 ~~or 2~~, 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 ~~one of claims 1 to 3~~ 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 ~~one of claims 1 to 4~~ claim 1, wherein R_6 is phenyl and Re is 2-hydroxyethyl, 2-hydroxypropyl, 2-hydroxybutyl or 2-hydroxypentyl.

6. The negative working photosensitive photoresist composition of ~~one of claims 1 to 5~~ 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 ~~one of claims 1 to 6~~ claim 6, wherein Rg 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 2-hydroxymethyl 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.

8. The negative working photosensitive photoresist composition of ~~claims 1 to 7~~ claim 6, wherein the composition is capable of being solubilized in aqueous alkaline developer prior to crosslinking the acrylate monomers.

9. The negative working photosensitive photoresist composition of ~~one of claims 1 to 8~~ claim 6, 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.

10. A method of forming a negative relief image comprising

a) forming a negative working photosensitive layer by applying a negative working photosensitive photoresist composition of ~~one of claims 1 to 9~~ claim 1 to a substrate and drying,

b) image-wise exposing the photosensitive layer to actinic radiation to form a latent image, and,

c) developing the unexposed areas in a developer,

wherein the image-wise exposed photosensitive layer is optionally thermally treated.

11. The method of claim 10, wherein the negative working photosensitive photoresist layer has a dried film thickness of between ~~about~~ 5 microns and ~~about~~ 100 microns.

12. The method of claim 10 ~~or 11~~, wherein the actinic radiation has wavelengths greater than 300 nm.