Patent claims

Claim 1:
Polymer surface, characterised in that it displays an increased surface energy.

Claim 2:
Polymer surface according to Claim 1, characterised in that the increased surface energy remains stable over a period of time of at least three months.

Claim 3:
Process for the creation of polymer surfaces with increased surface energy, characterised in that the polymer surface is irradiated with photons from a Xe_2 Excimer emitter in a nitrogen-oxygen mix.

Claim 4:
Process according to Claim 3, characterised in that the irradiation takes place in a chamber that is flushed with a nitrogen-oxygen mixture.

Claim 5:
Process according to Claim 3, characterised in that the oxygen concentration is between 0.1 and 2 vol. %, preferably between 0.2 and 0.5 vol. %.

Claim 6:
Process according to Claim 3, characterised in that the irradiation by photons from the Xe_2 Excimer emitter has irradiation time periods of 0.01 to 300 sec, preferably between 0.05 to 50 sec and in particular, most preferably of 0.05 to 5 sec.

Claim 7:
Process according to Claims 4 to 7, characterised in that acrylates, methacrylates and vinyl compounds are used as the polymer substrates.

Claim 8:

Application of a process for treating polymer surfaces with irradiation by photons from an Xe_2 Excimer emitter in a nitrogen-oxygen atmosphere to increase the surface energy of the polymer surface.

Claim 9:

Use of acrylates, methacrylates and vinyl compounds as polymer substrates.

Claim 10:

Use of a Xe_2 Excimer emitter to increase the surface energy of polymer surfaces in a process for treating polymer surfaces.

Claims

1. A process for the creation of a polymer surface with an increased surface energy, comprising the steps of:
providing a polymer having a surface;
irradiating the polymer surface with photons from a Xe_2 excimer emitter in a nitrogen-oxygen mix, and the oxygen concentration is between 0.1 and 2 vol. % to produce a polymer surface with an increased surface energy.

2. The process according to Claim 1, characterised in that the increased surface energy remains stable over a period of time of at least three months.

3. Process according to Claim 1, characterised in that the irradiation takes place in a chamber that is flushed with a nitrogen-oxygen mixture.

4. The process according to Claim 1, characterised in that the oxygen concentration is between 0.2 and 0.5 vol. %.

5. The process according to Claim 1, characterised in that the irradiation by photons from the Xe_2 Excimer emitter has irradiation time periods of 0.01 to 300 sec.

6. The process according to Claim 1, characterised in that the irradiation by photons from the Xe_2 excimer emitter has irradiation time periods of between 0.05 to 50 sec.

7. The process according to any one of Claims 1, 3 to 6, characterised in that acrylates, methacrylates and vinyl compounds are used as the polymer substrates.

8. Application of a process for treating polymer surfaces with irradiation by photons from an Xe_2 Excimer emitter in a nitrogen-oxygen atmosphere to increase the surface energy of the polymer surface, wherein, the oxygen concentration is between 0.1 and 2 vol. % .