Ozone Conversion for Dielectric Barrier Discharge Plasma using Vitamin C as Intermediate Layer

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Atmospheric plasma such as dielectric barrier discharge(DBD) has ability to eliminate bacteria and fungus by cell wall or cell membrane disruption directly. Ozone(O_3) is obviously created via process of DBD plasma generation and it is very harmful to human if there is more than 0.25 ppm. The objective of this research is to reduce ozone from dielectric barrier discharge plasma through antioxidant intermediate layer. Because vitamin c is a good antioxidant that can protect human from free radicals and vitamin c has a very fast reaction with free radicals. The result show that antioxidant intermediate layer can convert ozone from DBD plasma of area 76 cm2 to oxygen by using vitamin c concentration of 500, 1000, and 1500 mg are 33.9%, 42.7%, and 51.1% compare with control, respectively.

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