

硅胶表面键合物的正电子湮没谱研究

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**摘要** 本文在多孔无定形硅胶的表面上键合了不同极性的化学基团,制成一系列相同基体,但表面基团不同的样品,测定了其正电子湮没寿命谱,发现寿命谱的最长寿命组份随表面键合基不同,寿命值有明显差别。寿命值与基团的极性及其基团的体积有关,正电子湮没谱的最长寿命组份能灵敏地表征表面的极性和化学性,可作为表面化学定性分析的有用技术。

**关键词** [表面化学](#) [硅胶](#) [寿命](#) [键合](#) [正电子湮没](#)

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## Positron annihilation spectroscopy study of surface bonded silica gel

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**Abstract** A set of special samples for surface anal. were prepared by bonding various functional groups with different polarity on the surface of porous amorphous silica gels. The lifetimes of positrons in these samples were measured. The short lifetime fractions associated with positron annihilation in the bulk phase remain constant for all samples studied, while the long lifetime fractions corresponding to ortho-Ps annihilation in the pores on the surface are different due to the different groups bonded on surface. The longest lifetime fraction was correlated with the polarity and the size of the bonded functional group. The longest lifetimes fraction can characterize the surface polarity and/or chem. properties of the sample. Positron annihilation spectroscopy is a potential technique for qual. surface chem. anal.

**Key words** [SURFACE CHEMISTRY](#) [SILICA GEL](#) [LIFE](#) [BONDED](#) [POSITRON ANNIHILATION](#)

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