

## Geometry-driven Mass Transport Dynamics within Permeable 3D-Microstructures fabricated by Two-Photon Polymerization with Y-shaped Triphenylamines initiators.

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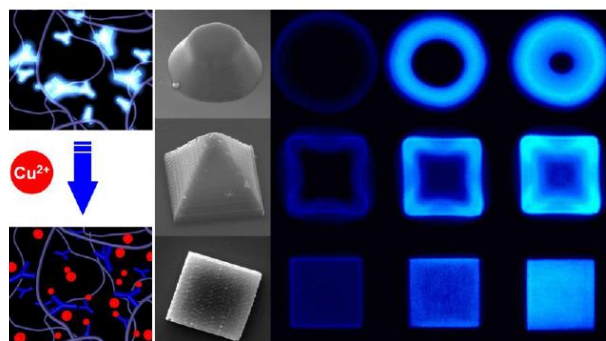
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Two-photon stereolithography (TPS) is a layer-by-layer assembly technique that has proved to be a powerful tool for the fabrication of intricate 3D microstructures with very high spatial resolution<sup>[1]</sup>. Due to TPS numerous and versatile applications, the conception of two-photon active materials according to the established structure-property relationships<sup>[2-4]</sup> has gained great interest recently.

In line with these structure-property relationships, we have elaborated a series of multi-branched triphenylamines photoinitiators<sup>[5-6]</sup> which incorporate an electron donor group (triphenylamine) decorated with electron acceptor group (ketone) and with substituents such as anisole and thioanisole. We describe herein the one-photon and two-photon photophysical properties of these chromophores, their photopolymerization efficiency as well as their applications, in particular in two-photon stereolithography. Of particular interest, we demonstrate a luminescence ON-OFF process controlled by quenching diffusion dynamics which can be modulated by the geometry and topology of the permeable 3D microstructures.



### References

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