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(54) Title: ACTIVELY CONTROLLABLE MULTIFOCAL LENS (57) Abstract The invention provides an active multifocal optical lens. The optical lens has a first optical element that provides a first optical power and a second optical element that provides a second optical power. The second optical element is a volume holographic optical element, which has been programmed to focus incoming light. The invention provides further a cross-linkable or polymerizable optical material that is suitable for producing a biocompatible holographic optical element. The optical material is a rapidly cross-linking or polymerizing material that changes from a fluid state to a solid state within a limited duration after being exposed to a light source. 		