

## Second harmonic generation and photochromic grating in polyurethane films containing diazo isoxazole chromophore

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Auteur	Marański, Krzysztof [1], Kucharski, Stanislaw [2], Ortyl, Ewelina [3], Nunzi, Jean-Michel [4], Ahmadi-Kandjani, Sohrab [5], Dabos, Sylvie [6], Chan, Siu-Wai [7], Barille, Régis [8]
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Résumé en anglais	The chromophoric intermediate: 2,2'-({4-[(E)-(5-methylisoxazol-3-yl)diazenyl]phenyl}-imino)diethanol was used in polyaddition reaction with di-isocyanate to obtain a new polyurethane polymeric material showing nonlinear optical and photochromic properties. The maximum absorption band of the polymer film was at 418 nm. The illumination of the film with crossed beams of the 488 nm Ar <sup>+</sup> laser yielded surface relief grating of regular structure. Measurement of the frequency doubling signal with 1064 nm laser indicated the polymer as interesting material for photooptical applications. The measured nonlinear optical coefficient, d <sub>33</sub> , reached 90.2 pm/V.
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