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B. Patent No.(s)

7014796

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6. Total number of applications and patents involved: 1

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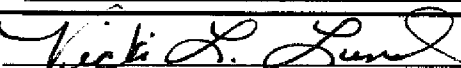
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Invention Title: FOCUSED MICROWAVE IRRADIATION ASSISTED SYNTHESIS OF DIVERSIFIED 2.5-DIHYDRO FIVE-MEMBER HETEROCYCLIC COMPOUNDS AS TUNABLE ELECTRON ACCEPTORS IN NONLINEAR OPTICAL CHROMOPHORES

Inventor(s): LARRY DALTON, ALEX KWAN-YUE JEN, SEN LIU, HONG MA

U.S. Filing/Issue Date: 3/21/2006

Patent or Application Serial No.: 7014796

Grant/Contract Number(s): F49520-00-1-0060

Foreign Applications filed/intended in (countries): _____

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Signed this 28th day of March, 2006.
 By Charles R. Williams, J.D., Ph.D. Charles Williams
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Title Director, Digital Ventures

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Government Interests

STATEMENT OF GOVERNMENT LICENSE RIGHTS

This invention was made with government support under Contract No. F49620-00-1-0060, awarded by the United States Air Force Office of Scientific Research. The government has certain rights in the invention.

Claims

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for making a nonlinear optically active compound having a π -donor moiety covalently coupled to a π -acceptor moiety through a π -electron conjugated bridge moiety, comprising irradiating with microwave irradiation a combination of a π -acceptor compound and a compound having a π -donor moiety covalently coupled to a π -electron conjugated bridge moiety.
2. The method of claim 1, wherein the compound having a π -donor moiety covalently coupled to a π -electron conjugated bridge moiety comprises an aldehyde moiety.
3. The method of claim 1, wherein the π -donor moiety comprises an amine group.
4. The method of claim 1, wherein the π -electron conjugated bridge moiety comprises a thiophene group.
5. The method of claim 1, wherein the acceptor compound comprises a moiety having the structure: ##STR00014## wherein X is O, S, or CH₂; wherein A₁ is an alkyl group, an aryl group, or an electron withdrawing group; wherein A₂ is an electron withdrawing group; wherein A₃ is an

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