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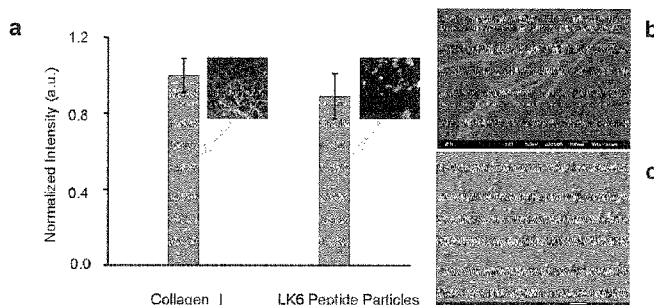
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(54) Title: ULTRASHORT PEPTIDES AS EXOGENOUS SECOND HARMONIC PROBES FOR BIOIMAGING APPLICA-
TIONS

Figure 1



(57) Abstract: Various aspects of the present invention relate to a peptide based biomaterial for visualization by SHG microscopy. In particular the invention relates to the use of short peptides as a non-linear optical (NLO) material for second harmonic generation (SHG) microscopy. A preferred short peptide comprises LIVAGK (LK6) and contains a non-polar aliphatic tail (with decreasing hydrophobicity) and a polar head; and can self-assemble into hydrogels; wherein which the peptide forms a tunable fibrous structure for in vitro and in vivo imaging applications and is suitable in disease diagnostics such as amyloidosis, including 1) neuro-degenerative amyloidosis, e.g. Alzheimer's (AD), Parkinson's, Huntington's (PD), 2) non-neuropathic localized amyloidosis such as in Type II Diabetes, and 3) systemic amyloidosis that occurs in multiple tissues, e.g. cataracts and lattice corneal dystrophy (LCD), as well as drug delivery and/or wound dressings.

