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(54) Title: DIPEPTIDE NITRILES (I) (57) Abstract N-terminal substituted dipeptide nitriles as defined are useful as inhibitors of cysteine cathepsins, e.g. cathepsins B, K, L and S, and can be used for the treatment of cysteine cathepsin dependent diseases and conditions, including inflammation, rheumatoid arthritis, osteoarthritis, osteoporosis, tumors (especially tumor invasion and tumor metastasis), coronary disease, atherosclerosis (including atherosclerotic plaque rupture and destabilization). Particular dipeptide nitriles are compounds of formula (I), or physiologically-acceptable and -cleavable esters or salts thereof, wherein: the symbols are as defined. In particular it has been found that by appropriate choice of groups R, R₂, R₃, R₄, R₅, X₁, Y and L, the relative selectivity of the compounds as inhibitors of the various cysteine cathepsin types, e.g. cathepsins B, K, L and S, may be altered, e.g. to obtain inhibitors which selectively inhibit a particular cathepsin type or combination of cathepsin types.		