tometrically (λ_{max} = 335 nm), quantitative determination being similar to that described recently.[1] Chemiluminescence (CL) from a reaction vessel containing a solvent (1 mL of cumene) and 0.06 mol L^{-1} of **1a** solution (0.8 mL) in an oxygen atmosphere was detected using a setup equipped with an FEU-140 photomultiplier. The temperature was varied within the range 22 to 52 °C. With thermal decomposition of the **1a** in cumene CL in the visible spectra region was observed. The luminescence decay was of the first order in the whole temperature range. The effective activation energy of the process in cumene was E_1 = (9.0±1.6) kcal/mol and $\log A$ = (4.0±1.1) [s^{-1}]. Apparently, the CL observed is due to the recombination of the peroxide radicals formed in this process. Detection of free radicals by the ESR technique during **1a** decomposition and decrease in the CL yield after the system had been purged with argon verified this suggestion.

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(*S*)-1-(2,4-Dinitrophenyl)prolyl chloride — a novel reagent for kinetic optical resolution of diaziridines

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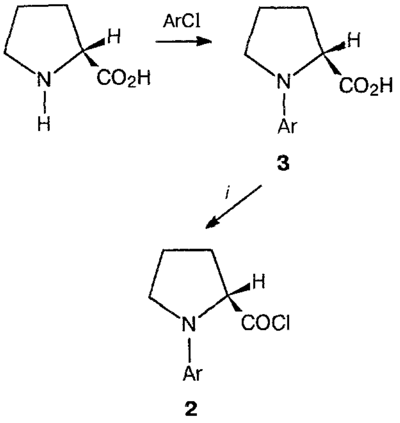
The following chiral reagents for kinetic optical resolution of diaziridines are used: (*S*)-α-phenylethylisocyanate,[1,2] *d*-(+)-10-camphorsulfonyl chloride,[3] and more efficient (*S*)-*N*-tosylprolyl chloride (TPC).[2,4–6] The action of 0.5 eq. of (*S*)-TPC or (*R*)-TPC on 1-methyl-3,3-pentamethylenediaziridine gives both enantiomers, (1*R*,2*R*)-(+) or (1*S*,2*S*)-(−),[2,5] respectively, in an optical yield up to 60%.[6] In the case of (−)-1-(3-oxobutyl)-3,3-dimethyldiaziridine (**1**), the action of (*S*)-TPC gives (+)-**1** in a significantly lower optical yield (11%). We propose a novel chiral reagent for kinetic resolution of NH-diaziridines, *viz.*, (*S*)-1-(2,4-dinitrophenyl)prolyl chloride (**2**) (Scheme 1).

Using (*S*)-**2**, diaziridine (−)-**1** was prepared in 35.4 % optical yield, which is 3.2 times higher than that with (*S*)-TPC in a similar procedure.[6] It is important that the enrichment with the opposite enantiomer also occurs. Thus, starting from readily available *S*-proline, using (*S*)-TPC and (*S*)-**2**, the samples of **1** considerably enriched with either (+)- or (−)-enantiomers may be prepared (Scheme 2).

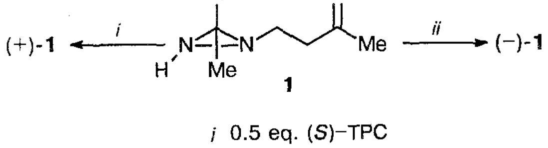
Compound (*S*)-**3** was obtained using a modified procedure[7] in 42% yield, m.p. 142—144 °C, $[\alpha]_D^{12}$ −619.6° (*c* 2.1, ethanol). Reagent (*S*)-**2** was obtained as shown in Scheme 1; after evaporation of the mixture, extraction with anhydrous ether and drying *in vacuo* its yield was 48 %.

Scheme 1



Ar = 2,4-$(O_2N)_2C_6H_3$—
i. $SOCl_2$, DMF, CH_2Cl_2; 20 °C, 18 h

Scheme 2



i 0.5 eq. (*S*)-TPC
ii 0.5 eq. (*S*) -**2**

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Enantiomers (+)-**1** and (−)-**1** were prepared using the general procedure.[6] The optical purity of (−)-**1** ($[\alpha]_D^{12}$ −60.46° (*c* 2.0, *n*-heptane)) was determined by the ^{1}H NMR method using the chiral shift reagent Eu(tfc)$_3$. The optical purity of (+)-**1** reported in Ref. 6 is revised on the basis of the ratio of the absolute $[\alpha]_D$ values. The structures of the compounds obtained were confirmed by NMR.

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