At the same time, we synthesized I in 48% yield by reacting tetrahydrofurfuryl bromide with sodium tetrahydrofurfurylate at 180° C for 6 hr.

Bp 74°C (1.5 mm); d_4^{20} 1.0347; n_D^{20} 1.4550. Found: C 64.30, 64.65; H 9.68, 9.75%; M (cryoscopic in benzene) 170; 175; MR_D 48.46. Calculated for $C_{10}H_{18}O_2$: C 64.50; H 9.73%; M 186; MR_D 48.91.

The correctness of the identification of the compound synthesized as bistetrahydrofurfuryl ether is confirmed by its IR spectrum (Fig.) showing absorption bands characteristic of vibrations of C–H bonds in the heterocyclic ring (880, 925, and 945 cm^{-1}), the heterocyclic group C–O–C (1030 cm^{-1}), an ether link (1090, 1140 and 1180 cm^{-1}), and CH_2 groups (1340 and 1460 cm^{-1}).

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SYNTHESIS OF VINYL MONOMERS IN THE DIARYLOXAZOLE SERIES

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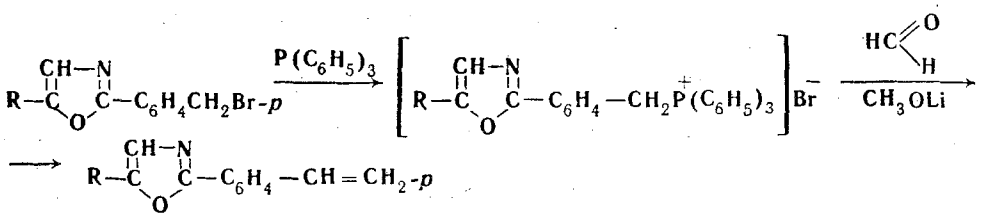
In preparing scintillating plastics, interest attaches to formation of polymer chains containing structural groupings which scintillate [1, 2]. With this aim in mind, we have synthesized monomers, vinyl derivatives of diaryloxazoles of general formula I, by reacting halogenomethylaromatic compounds with triphenylphosphine, paraform, and lithium methoxide (Wittig method):



Ia–c with R = C_6H_5; b R = o-$C_6H_5C_6H_4$; c R = α-$C_{10}H_7$

The 2-(p-bromomethylphenyl)-5-aryloxazoles required for this synthesis are easily prepared by cyclizing (p-bromomethylbenzoyl)-ω-amino derivatives of aliphatic-aromatic ketones with sulfuric acid or phosphorus oxychloride.

2-(p-Vinylphenyl)-5-phenyloxazole (Ia). 2.62 g (0.01 mole) Ph_3P was introduced, with heating, into a solution of 3.14 g (0.01 mole) 2-(p-bromomethylphenyl)-5-phenyloxazole in 5 ml dimethylformamide, the mixture refluxed for 1 hr, the precipitate separated off, washed with petrol ether, and dried, yield 5.7 g (100%) phosphonium salt. It was dissolved in 100 ml MeOH, 0.3 g (0.01 mole) paraform and a solution of 0.07 g (0.01 g at) Li in 50 ml MeOH added, and the whole stirred for 3 hr. 150 ml water was added, the precipitate separated off, and after drying, purified on an aluminum oxide column. Yield 1.2 g (50%), white crystals, mp 65–67° C, crystals luminescence λ_{max} 415 mμ, in MeOH it was 390 mμ. Found: N 5.66%. Calculated for $C_{17}H_{13}NO$: N 5.66%.

2-(p-Vinylphenyl)-5-biphenyloxazole (Ib). Prepared similarly, 40% yield, mp 158–161°, luminescence λ_{max} for crystals 445 mμ, for MeOH solution 405 mμ. Found: N 4.29%. Calculated for $C_{23}H_{17}NO$: N 4.33%.

2-(p-Vinylphenyl)-5-α-naphthyloxazole (Ic). This was prepared similarly. Mp 80–82°, luminescence λ_{max}, for crystals 465 mμ, in MeOH 410 mμ. Found: N 4.96%. Calculated for $C_{21}H_{15}NO$: N 4.71%.

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