Synthesis of 2,1-benzisoxazol-3(1H)-one by intramolecular photochemical cyclization of 2-azidobenzoic acid.

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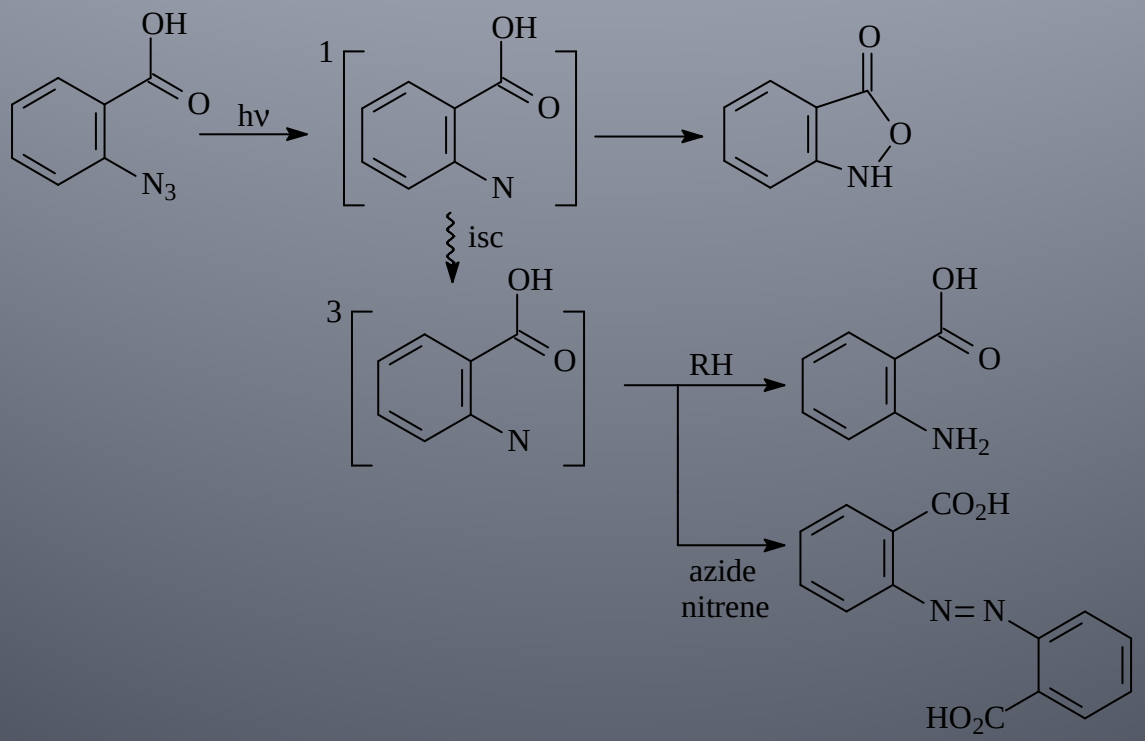
Photolysis of 2-azidobenzoic acid

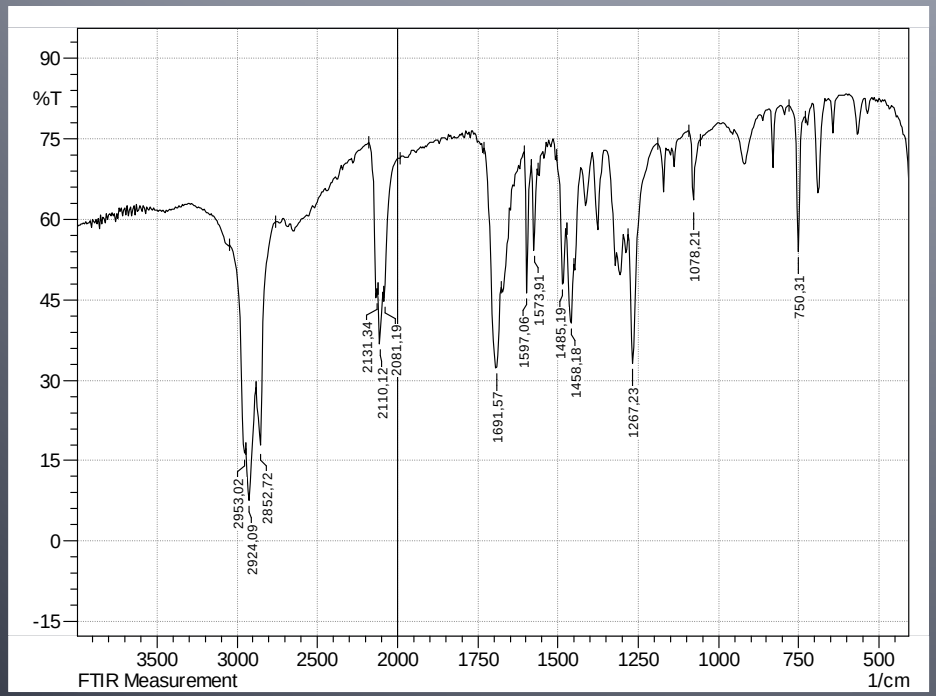
The mechanism of formation 2,1-benzisoxazol-3(1H)-one and 2-aminobenzoic acid the photolysis 2-azidobenzoic acid



Infrared spectra

Infrared spectra of 2-azidobenzoic acid (1) and 2,1-benzisoxazol-3(1H)-one (2) in nujol mull.

1



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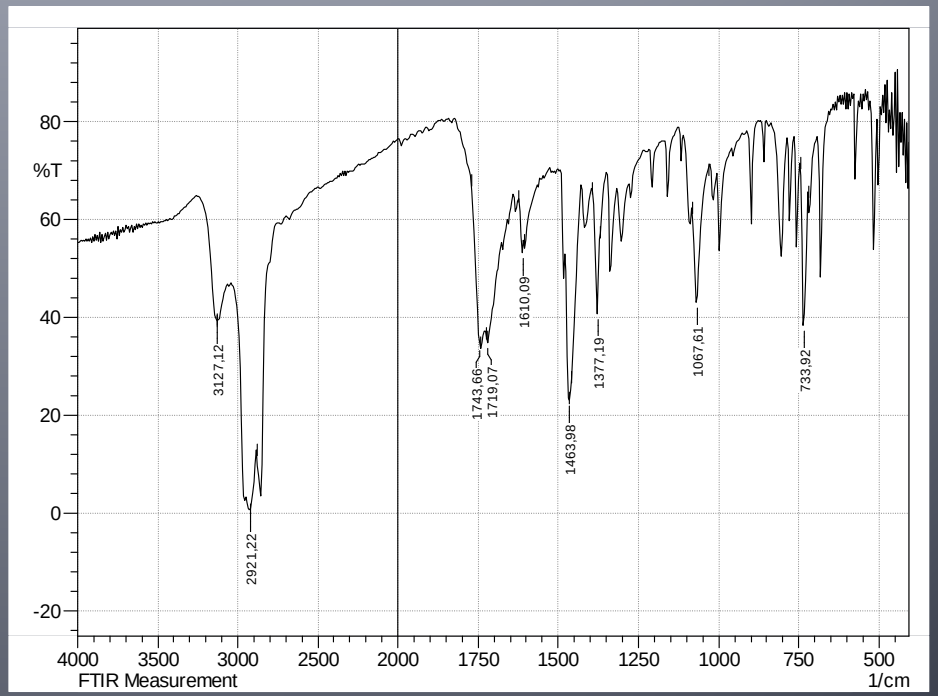
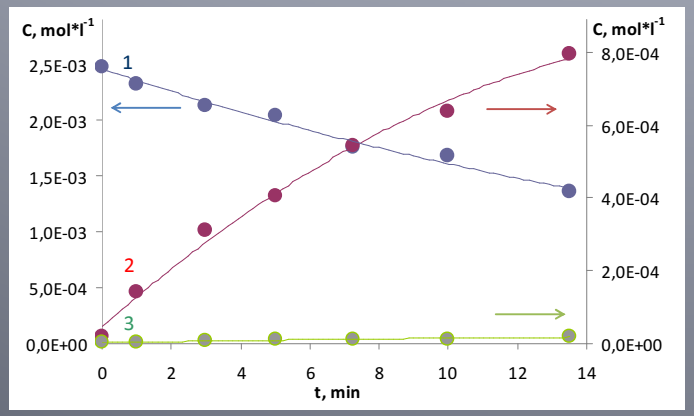


The kinetics of the photolysis 2-azidobenzoic acid

Concentration of azide 2.5×10^{-3} mol×l^{-1} (1), 4.2×10^{-4} mol×l^{-1} (2) and 9.3×10^{-5} mol×l^{-1} (3) (HP Hg-lamp DRK-120)

1



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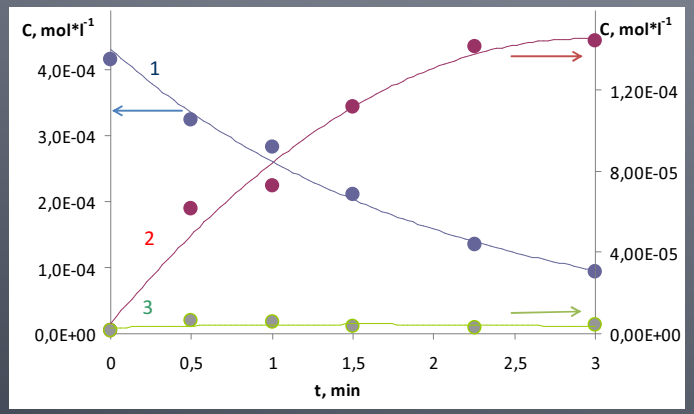

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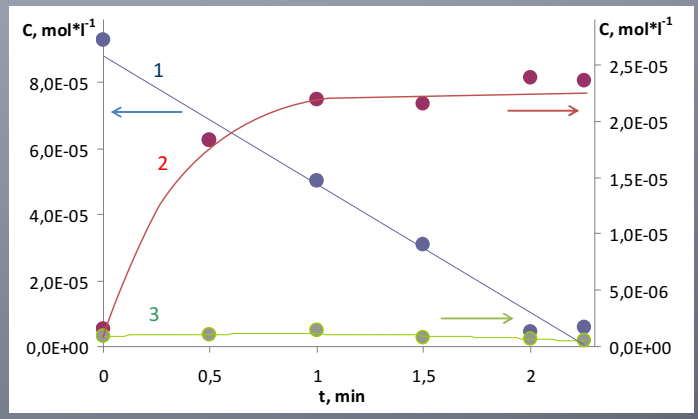
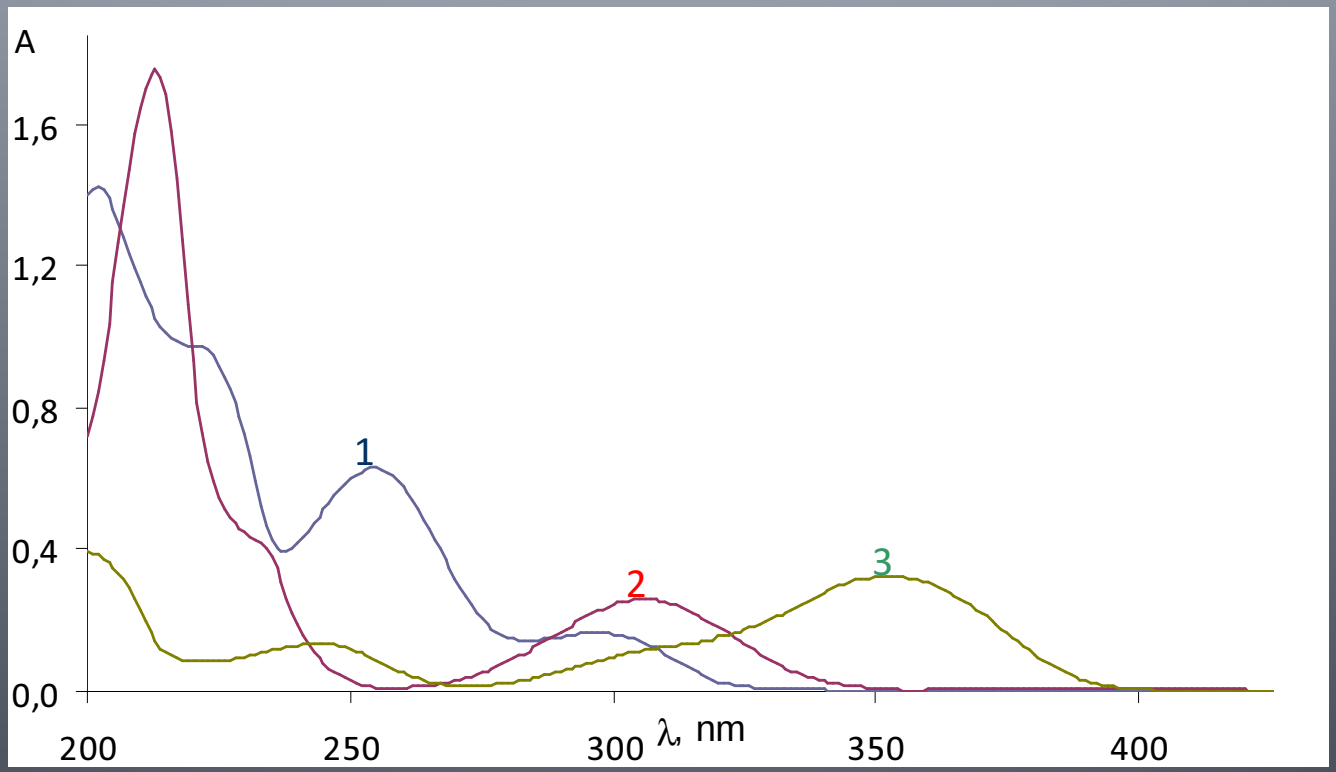


UV-Vis Absorption Spectra

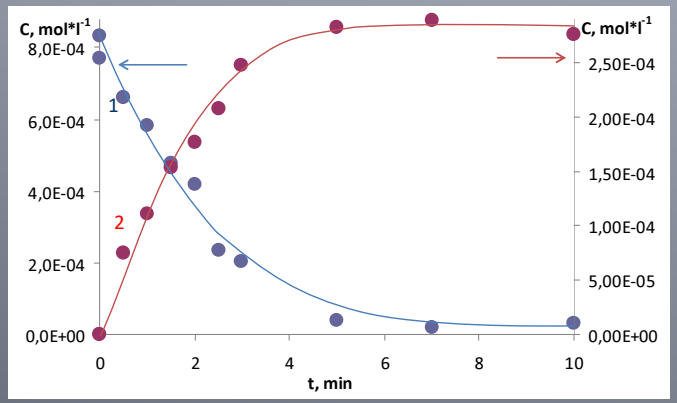
2-azidobenzoic acid (1), 2,1-benzisoxazol-3(1H)-one (2) and
2-aminobenzoic acid (3) in acetonitrile



The kinetics of the photolysis 2-azidobenzoic acid

Concentration of azide 7.7×10-4 mol×l^{-1} (1), 4.0×10^{-3} mol×l^{-1}(2), 2.6×10^{-4} mol×l^{-1} (3) and 4.1×10^{-2} mol×l^{-1} (4) (LP Hg-lamp BUF-30)

1



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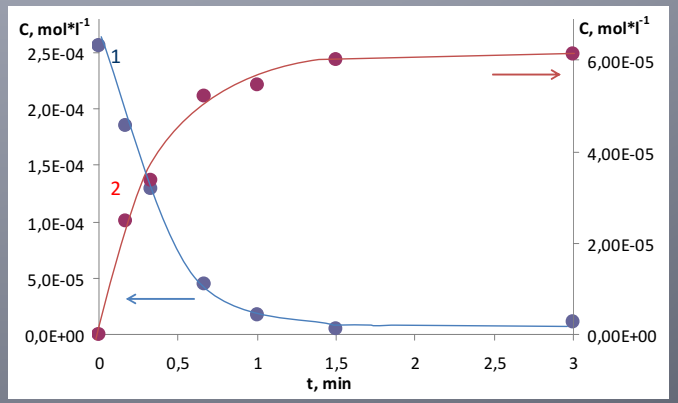

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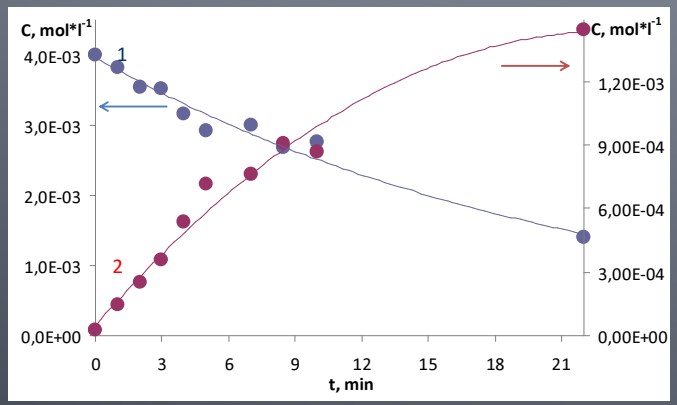

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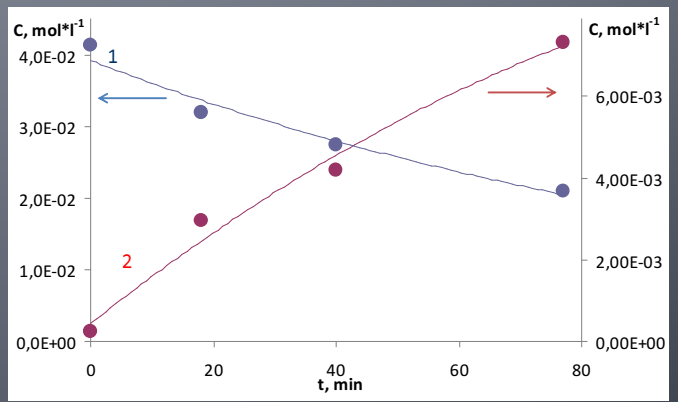

Secondary photolysis of 2,1-benzisoxazol-3(1H)-one

A possible mechanism of the photolysis