

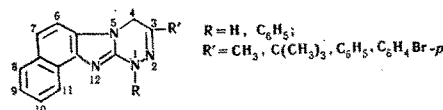
SYNTHESIS OF 1,4-DIHYDRO DERIVATIVES OF NAPHTH[1',2'-4,5]IMIDAZO- [2,1-c]-[1,2,4]-TRIAZINE

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By a well-known method of closing the triazine ring [1], we have effected the synthesis of a number of derivatives of naphth[1',2'-4,5]imidazo[2,1-c]-[1,2,4]triazine. By the reaction of 2-chloronaphth[1,2-d]imidazole with α -halogeno-ketones we have obtained the corresponding 3-acylmethyl-2-chloronaphth[1,2-d]imidazoles (I, II). By heating I and II and also 3-acetonyl-2-chloronaphth[1,2-d]imidazole (III) and 3-phenacyl-2-chloronaphth[1,2-d]imidazole [2] (IV) with hydrazine hydrate and phenylhydrazine, VI-XI have been obtained. The reaction of III with hydrazine hydrate first forms the hydrazone of 3-acetonyl-2-chloronaphth[1,2-d]imidazole (V), which cyclizes into VI on being heated in alcohols or in dimethylformamide.



2-Chloro-3-pinacolonylnaphth[1,2-d]imidazole (I). Mp 155-156°C (from aqueous ethanol). Found %: C 68.19; H 5.74; Cl 11.91; N 9.28. $C_{17}H_{17}ClN_2O$. Calculated %: C 67.88; H 5.70; Cl 11.79; N 9.31. **3-(p-Bromophenacyl)-2-chloronaphth[1,2-d]imidazole (II).** Mp 231-232°C (from dioxane). Found %: C 57.50; H 3.10; Cl + Br 29.35; N 7.25. $C_{19}H_{12}ClBr \cdot N_2O$. Calculated %: C 57.09; H 3.03; Cl + Br 28.87; N 7.01. **Hydrazone of 3-acetonyl-2-chloronaphth[1,2-d]imidazole (V).** Mp 156-157°C (from benzene). Found %: C 61.92; H 4.81; Cl 13.22; N 20.69. $C_{14}H_{13}ClN_4$. Calculated %: C 61.65; H 4.81; Cl 13.00; N 20.54. **3-Methyl-1,4-dihydronaphth[1',2'-4,5]imidazo[2,1-c]-[1,2,4]triazine (VI).** Mp 301-303°C (from aqueous dimethylformamide). Found %: C 71.32; H 5.39; N 23.90. $C_{14}H_{12}N_4$. Calculated %: C 71.16; H 5.12; N 23.72. **3-tert-Butyl-1,4-dihydronaphth[1',2'-4,5]imidazo[2,1-c]-[1,2,4]triazine (VII).** Found %: C 73.05; H 6.35; N 20.31. $C_{17}H_{18}N_4$. Calculated %: C 73.35; H 6.52; N 20.12. **3-Phenyl-1,4-dihydronaphth[1',2'-4,5]imidazo[2,1-c]-[1,2,4]triazine (VIII).** Mp 310-312°C (from aqueous dimethylformamide). Found %: C 76.11; H 4.75; N 19.00. $C_{19}H_{14}N_4$. Calculated %: C 76.49; H 4.73; N 18.78. **3-(p-Bromophenyl)-1,4-dihydronaphth[1',2'-4,5]imidazo[2,1-c]-[1,2,4]triazine (IX).** Mp (decomp.) 320-322°C (dimethylformamide). Found %: C 60.71; H 3.66; Br 20.92; N 15.13. $C_{19}H_{13}BrN_4$. Calculated %: C 60.49; H 3.47; Br 21.18; N 14.85. **1,3-Diphenyl-1,4-dihydronaphth[1',2'-4,5]imidazo[2,1-c]-[1,2,4]triazine (X).** Mp 246-247°C (from aqueous dimethylformamide). Found %: C 79.92; H 5.08; N 14.78. $C_{25}H_{18}N_4$. Calculated %: C 80.19; H 4.85; N 14.96. **3-(p-Bromophenyl)-1-phenyl-1,4-dihydronaphth[1',2'-4,5]imidazo[2,1-c]-[1,2,4]triazine (XI).** Mp 243-244°C (from aqueous dimethylformamide). Found %: C 66.01; H 3.82; Br 17.68; N 12.24. $C_{25}H_{17}BrN_4$. Calculated %: C 66.23; H 3.78; Br 17.63; N 12.36.

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