

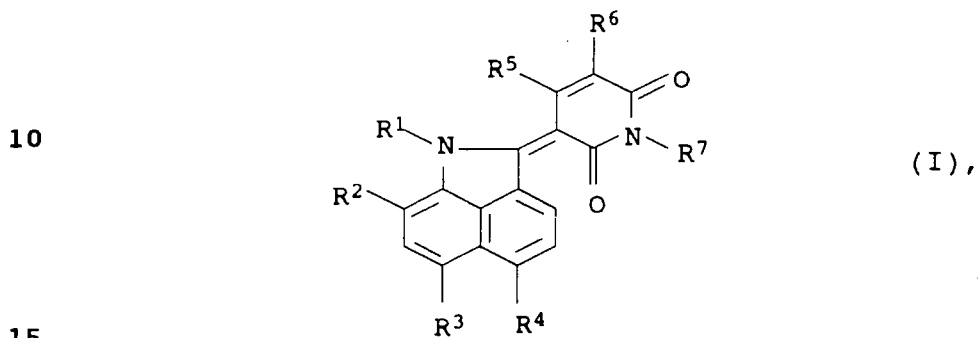


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Naphtholactam dyes

The present invention relates to novel naphtholactam derivatives
5 of the formula I



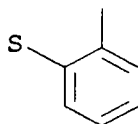
where

18 R¹ is hydrogen, substituted or unsubstituted C₁-C₆-alkyl,
20 C₅-C₇-cycloalkyl or substituted or unsubstituted phenyl,

22 R² and R³ are independently of each other hydrogen,
C₁-C₈-alkanoyl, substituted or unsubstituted benzoyl, substi-
24 tuted or unsubstituted C₂-C₄-alkyl, substituted or unsubsti-
26 tuted C₂-C₄-alkenyl, substituted or unsubstituted
C₂-C₄-alkynyl, halogen, nitro, sulfamoyl, hydroxyl, mercapto,
C₁-C₆-alkoxy, substituted or unsubstituted phenoxy,
C₁-C₆-alkylthio, substituted or unsubstituted phenylthio,
C₁-C₆-alkylsulfonyl or substituted or unsubstituted phenylsul-
30 fonyl,

32 R⁴ is hydrogen or together with R³ a radical of the formula

35



38 R⁵ is hydrogen or C₁-C₆-alkyl,

40

R⁶ is cyano, carbamoyl, mono- or di(C₁-C₄-alkyl)carbamoyl,
carboxyl or C₁-C₄-alkoxycarbonyl, and

42 R⁷ is substituted C₁-C₄-alkyl or substituted or unsubstituted
45 C₅-C₁₃-alkyl with or without interruption by from 1 to 3
oxygen atoms in ether function, by from 1 to 3 sulfur atoms



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2

or by from 1 to 3 imino or C₁-C₄-alkylimino groups, or is benzoyl,

and to their use for dyeing or printing textile materials.

5

DE-A-2 611 665 and US-A-4 096 145 disclose dyes based on similar naphtholactam derivatives. However, it has been found that the products described therein have application defects.

10 It is an object of the present invention to provide novel naphtholactam dyes which show advantageous application properties. More particularly, the novel dyes shall possess high color strength and brilliance and have good in-use/service properties.

15 We have found that this object is achieved by the above-defined naphtholactam derivatives of the formula I.

Any alkyl or alkenyl appearing in the abovementioned formulae may be straight-chain or branched.

20

Any substituted alkyl appearing in the abovementioned formulae may have as substituents for example cyclohexyl, phenyl, C₁-C₄-alkylphenyl, C₁-C₄-alkoxyphenyl, halophenyl, C₁-C₁₃-alkanoyloxy, C₁-C₁₃-alkoxycarbonyl, C₁-C₁₃-alkoxycarbonyloxy, the alkyl

25 chain of the three last-mentioned radicals being optionally interrupted by from 1 to 3 oxygen atoms in ether function and/or phenyl- or phenoxy-substituted, cyclohexyloxy, phenoxy, halogen, hydroxyl or cyano. The number of substituents in substituted alkyl is generally 1 or 2.

30

Any interrupted alkyl appearing in the abovementioned formulae is preferably interrupted, unless otherwise stated, by 1 or 2 oxygen atoms in ether function, sulfur atoms or imino or C₁-C₄-alkylimino groups.

35

Any substituted phenyl appearing in the abovementioned formulae may have as substituents for example, unless otherwise stated, C₁-C₈-alkyl, C₁-C₈-alkoxy, nitro or halogen, especially chlorine or bromine. The number of substituents in substituted phenyl is

40 generally from 1 to 3.

Any substituted alkenyl appearing in the abovementioned formula I may have as substituents for example phenyl, C₁-C₁₃-alkoxycarbonyl, cyano or hydroxyl. The number of substituents in sub-

45 stituted alkenyl is generally one.

Any substituted alkynyl appearing in the abovementioned formula I may have as substituents for example hydroxyl, phenyl, C₁-C₁₃-alkoxycarbonyl or cyano. The number of substituents in substituted alkynyl is generally one.

5

R¹ and R⁵ are each for example methyl or else - and this also applies to R² and R³ - ethyl, propyl, isopropyl, butyl, isobutyl, sec-butyl or tert-butyl.

- 10 R¹ and R⁵ may each also be for example - and this also applies to R⁷ - pentyl, isopentyl, neopentyl, tert-pentyl, hexyl or 2-methylpentyl.

- R⁷ may also be for example heptyl, 1-ethylpentyl, octyl, 2-ethylhexyl, isooctyl, nonyl, isononyl, decyl, isodecyl, undecyl, dodecyl, tridecyl, isotridecyl (the above designations isooctyl, isononyl, isodecyl and isotridecyl are trivial names derived from the oxo process alcohols - cf. Ullmann's Encyclopedia of Industrial Chemistry, 5th Edition, Vol. A1, pages 290 to 293, and also
- 20 Vol. A 10, pages 284 and 285), 2-propoxyethyl, 2-isopropoxyethyl, 2-butoxyethyl, 2- or 3-ethoxypropyl, 2- or 3-propoxypropyl, 2- or 3-butoxypropyl, 2- or 4-methoxybutyl, 2- or 4-ethoxybutyl, 2- or 4-propoxybutyl, 3,6-dioxaheptyl, 3,6-dioxaoctyl, 4,8-dioxanonyl, 3,7-dioxaoctyl, 3,7-dioxanonyl, 4,7-dioxaoctyl, 4,7-dioxanonyl,
- 25 2- or 4-butoxybutyl, 4,8-dioxadecyl, 3,6,9-trioxadecyl, 3,6,9-trioxaundecyl, 3,6,9-trioxadodecyl, 4,11-dioxapentadecyl, 6-phenoxy-4-oxahexyl, 3-phenoxy-4-oxahexyl, 2- or 3-ethylthiopropyl, 2- or 4-methylthiobutyl, 2- or 4-ethylthiobutyl, 2-dimethylaminopropyl, 4-aza-4-methylpentyl, 2-ethylaminopropyl, 4-aza-
- 30 yl, 2-diethylaminopropyl, 4-aza-4-ethylhexyl, 5-aza-hexyl, 5-aza-5-methylhexyl, 5-azaheptyl, 5-aza-5-ethylheptyl, 3,6-diazaheptyl, 3,6-diaza-6-methylheptyl or 3,6-diaza-3,6-dimethylheptyl.

- R¹, R², R³ and R⁷ may each also be 2-methoxycarbonylethyl,
- 35 2-ethoxycarbonylethyl, 2- or 3-methoxycarbonylpropyl, 2- or 3-ethoxycarbonylpropyl, 2- or 3-butoxycarbonylpropyl, 4-methoxycarbonylbutyl, 4-ethoxycarbonylbutyl, 2-methoxycarbonyloxyethyl, 2-ethoxycarbonyloxyethyl, 2- or 3-methoxycarbonyloxypropyl, 2- or 3-ethoxycarbonyloxypropyl, 2- or 4-methoxycarbonyloxybutyl, 2- or
- 40 4-ethoxycarbonyloxybutyl, 2-cyanoethyl, 2- or 3-cyanopropyl, 4-cyanobutyl, 2-acetyloxyethyl, 2-propionyloxyethyl, 2- or 3-acetyloxypropyl, 2-hydroxyethyl, 2- or 3-hydroxypropyl, 4-hydroxybutyl, 2-cyclohexyloxyethyl, 2- or 3-cyclohexyloxypropyl, 2- or 4-cyclohexyloxybutyl, phenoxymethyl, 2-phenoxyethyl, 2- or 3-phenoxypropyl, 2- or 4-phenoxybutyl, 2-cyclohexylethyl, 2- or
- 45

3-cyclohexylpropyl or benzyl, 1- or 2-phenylethyl, 2-chloroethyl, 2- or 3-chloropropyl or 2- or 4-chlorobutyl.

R¹ may also be for example cyclopentyl, cyclohexyl, cycloheptyl, 5 phenyl, 2-, 3- or 4-methylphenyl, 2,4-dimethylphenyl, 2-, 3- or 4-methoxyphenyl, 2,4-dimethoxyphenyl, 2-, 3- or 4-chlorophenyl or 2,6-dichlorophenyl.

R² and R³ may each also be for example formyl, acetyl, propionyl, 10 butyryl, isobutyryl, pentanoyl, isopentanoyl, hexanoyl, heptanoyl, octanoyl, 2-ethylhexanoyl, benzoyl, 2-, 3- or 4-methylbenzoyl, 2-, 3- or 4-methoxybenzoyl, 2-, 3- or 4-chlorobenzoyl, allyl, methallyl, styryl, 2-methoxycarbonylprop-1-en-1-yl, 2-ethoxycarbonylprop-1-en-1-yl, 2-(2-ethylhexyloxy- 15 carbonyl)prop-1-en-1-yl, 2-tridecyloxycarbonylprop-1-en-1-yl, 2-isotridecyloxycarbonylprop-1-en-1-yl, ethynyl, prop-1-yn-1-yl, prop-1-yn-3-yl, 3-hydroxyprop-1-yn-1-yl, but-1-yn-1-yl, but-2-yn-1-yl, methylthio, ethylthio, propylthio, isopropylthio, butylthio, isobutylthio, pentylthio, hexylthio, phenylthio, 20 2-methylphenylthio, 2-methoxyphenylthio, 2-chlorophenylthio, methoxy, ethoxy, propoxy, isopropoxy, butoxy, isobutoxy, sec-butoxy, pentyloxy, isopentyloxy, neopentyloxy, tert-pentyloxy, hexyloxy, 2-methylpentyloxy, phenoxy, 2-, 3- or 4-methylphenoxy, 2-, 3- or 4-methoxyphenoxy, fluorine, chlorine, bromine, methyl- 25 sulfonyl, ethylsulfonyl, propylsulfonyl, isopropylsulfonyl, butylsulfonyl, isobutylsulfonyl sec-butylsulfonyl, pentylsulfonyl, isopentylsulfonyl, neopentylsulfonyl, hexylsulfonyl, phenylsulfonyl, 2-methylphenylsulfonyl, 2-methoxyphenylsulfonyl or 2-chlorophenylsulfonyl.

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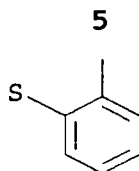
R⁶ is for example methoxycarbonyl, ethoxycarbonyl, propoxycarbonyl, isopropoxycarbonyl, butoxycarbonyl, isobutoxycarbonyl, sec-butoxycarbonyl, mono- or dimethylcarbamoyl, mono- or diethylcarbamoyl, mono- or dipropylcarbamoyl, mono- or diisopropylcarba- 35 moyl, mono- or dibutylcarbamoyl or N-methyl-N-ethylcarbamoyl.

Preference is given to naphtholactam derivatives of the formula I where R¹ is hydrogen.

40 Preference is further given to naphtholactam derivatives of the formula I where R² is hydrogen.

Preference is further given to naphtholactam derivatives of the formula I where R³ is hydrogen, C₂-C₄-alkanoyl, benzoyl, halogen, 45 nitro, C₁-C₆-alkylthio, phenylthio or together with R⁴ a radical of the formula

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Preference is further given to naphtholactam derivatives of the formula I where R^5 is hydrogen or methyl, especially hydrogen.

Preference is further given to naphtholactam derivatives of the
10 formula I where R^6 is cyano.

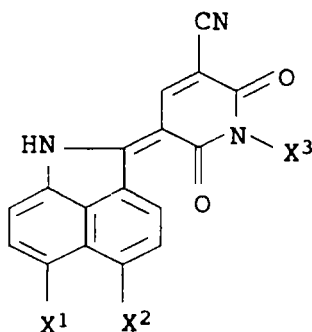
Preference is further given to naphtholactam derivatives of the formula I where R^7 is C_5-C_{13} -alkyl with or without substitution by phenoxy and with or without interruption by from 1 to 3 oxygen
15 atoms in ether function, or is phenylethyl.

Particular preference is given to naphtholactam dyes of the formula I where R^7 is C_6-C_{13} -alkyl, especially C_7-C_{13} -alkyl, C_5-C_{13} -alkyl which is interrupted by 1 or 2 oxygen atoms in ether
20 function, or phenylethyl.

Particular preference is further given to naphtholactam derivatives of the formula Ia

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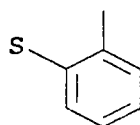


(Ia)

35 where

X^1 is hydrogen, C_2-C_4 -alkanoyl, benzoyl, halogen, nitro, C_1-C_6 -alkylthio or phenylthio,

40 X^2 is hydrogen or together with X^1 a radical of the formula



and

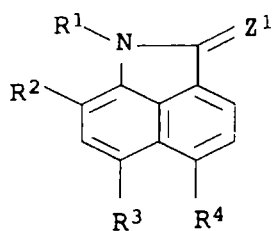
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X^3 is C_5-C_{13} -alkyl with or without substitution by phenoxy and with or without interruption by from 1 to 3 oxygen atoms in ether function, or is phenylethyl.

5 The naphtholactam derivatives of the formula I according to the present invention can be obtained by conventional methods.

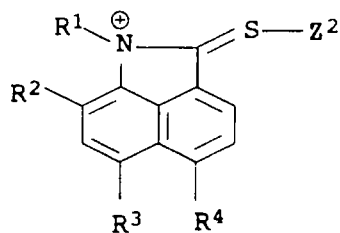
For example, a naphtholactam of the formula IIa or IIb

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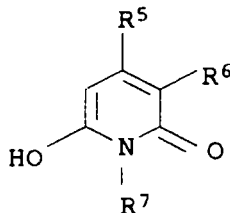
(IIa)

 $An^{\ominus}$

(IIb)

where Z^1 is oxygen or sulfur, Z^2 is C_1-C_4 -alkyl and $An^{\ominus}$ is the
20 equivalent of an anion (e.g. halide, methosulfate or ethosulfate) and R^1 , R^2 , R^3 and R^4 are each as defined above, can be condensed with a pyridone of the formula III

25



(III),

30

where R^5 , R^6 and R^7 are each as defined above.

A condensing agent is required in the case of Z^1 oxygen, but not
35 in the case of compounds where Z^1 is sulfur or which conform to the formula Ib.

Examples of suitable condensing agents include phosphorus
halides, such as phosphorus pentachloride, phosphorus tri-
chloride, phosphoryl chloride or phosphoryl bromide. The use of
40 phosphoryl chloride is preferred.

The reaction can be carried out in a diluent, for example a
glycol ether, such as methylglycol, ethylglycol, methyldiglycol
or ethyldiglycol, γ -butyrolactone, dichloroethane, chlorobenzene,
45 dichlorobenzene, nitrobenzene or dioxane, or else in an excess of
condensing agent.

If the reaction of the naphtholactams is carried out without a condensing agent, the abovementioned diluents are likewise suitable, but in addition there may be mentioned for example pyridine, N,N-dimethylformamide or N-methylpyrrolidone.

5

The naphtholactam derivatives of the formula I according to the present invention are advantageously useful for dyeing or printing textile materials. These exhibit for example fibers or fabrics made of cellulose esters or polyesters but also of poly-
10 amides, or blends of polyesters and cellulose fibers. The dyeings or prints obtained have a high fastness to dry heat setting and pleating, a high color strength and a high brilliance and also good in-use/service fastness properties.

15 To obtain a favorable color build-up, it can be of advantage in some cases to dye with mixtures between the naphtholactam derivatives of the formula I.

The naphtholactam derivatives of the present invention are also
20 advantageously useful for thermal transfer from a transfer to plastic-coated paper by means of an energy source (see e.g. EP-A-416 434).

The Examples which follow illustrate the invention.

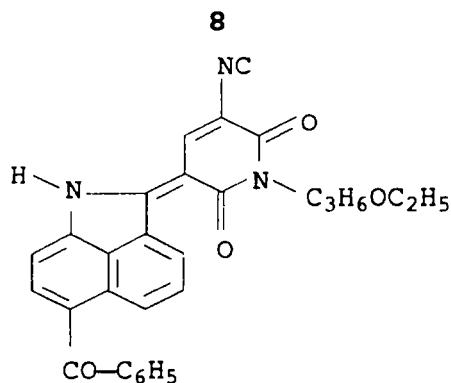
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Example 1

8.2 ml (0.09 mol) of phosphoryl chloride were added dropwise with stirring at 80°C to a mixture of 150 ml of γ -butyrolactone, 8.2 g
30 (0.03 mol) of 4-benzoylnaphtholactam and 7.3 g (0.037 mol) of 1-(4-oxahexyl)-3-cyano-6-hydroxypyrid-2-one. The reaction mixture was stirred at 120°C for 6 h and then distilled at 0.5–0.7 mbar and 50–54°C to remove γ -butyrolactone and phosphoryl chloride, 70 ml of ethanol were then gradually added dropwise at the same
35 temperature with stirring, and the mixture was cooled down to room temperature and stirred at room temperature for 2 h. The dye was then filtered off, washed with petroleum ether and dried to leave 7.5 g (54%) of the dye of the formula

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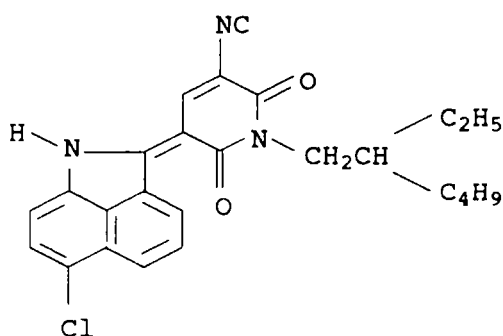
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in the form of red crystals.

(mp.: 128–135°C; λ_{max} : 278 nm, 548 nm, in CH₂Cl₂)

Example 2

8.2 ml (0.09 mol) of phosphoryl chloride were added dropwise with stirring at 80°C to a mixture of 150 ml of γ -butyrolactone, 6.1 g (0.03 mol) of 4-chloronaphtholactam and 8.2 g (0.037 mol) of 1-(2-ethylhexyl)-3-cyano-6-hydroxypyrid-2-one. The reaction mixture was stirred at 100°C for 1.5 h and then distilled at 0.5–0.7 mbar and 50–54°C to remove γ -butyrolactone and phosphoryl chloride, 80 ml of ethanol were then gradually added dropwise at the same temperature with stirring, and the mixture was cooled down to room temperature and stirred at room temperature for 2 h. The dye was then filtered off, washed with petroleum ether and dried to leave 5.0 g (38.4%) of a dye of the formula



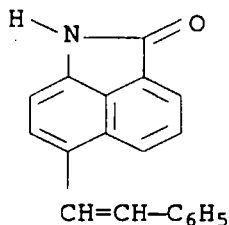
in the form of red crystals.

(mp.: 212–216°C; λ_{max} : 520 nm, 560 nm, in CH₂Cl₂)

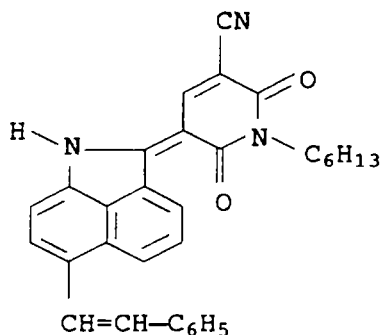
Example 3

a) 5 g (0.02 mol) of 4-bromonaphtholactam, 2.3 g (0.022 mol) of styrene, 3.9 g (0.21 mol) of tributylamine, 0.052 g (0.0002 mol) of triphenylphosphine and 0.0022 g (0.00001 mol) of palladium acetate were combined under nitrogen and heated to 150°C for 4 h with stirring. The mixture was then cooled

down to room temperature and dissolved in 1200 ml of acetone with heating, and the catalyst was filtered off. The solution was then slowly concentrated at room temperature, obtaining 4.16 g (77%) of crystals of a yellow product of the formula



- b) 1.48 g of the compound obtained under a) were condensed with 1.47 g of 1-hexyl-3-cyano-6-hydroxypyrid-2-one by the method of Example 2, affording 2.34 g (90%) of the compound of the formula



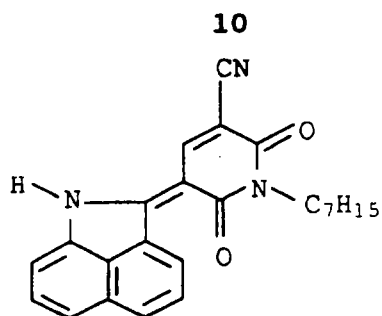
($\lambda_{\max}$: 558 nm, in CH₂Cl₂)

Example 4

- 8.4 g (0.05 mol) of naphtholactam and 11.6 g (0.05 mol) of 1-heptyl-3-cyano-6-hydroxypyrid-2-one were stirred at 50°C in 35 ml of 1,2-dichloroethane for 15 min. Thereafter 10 ml of phosphoryl chloride were added dropwise, and stirring was continued for a further 2 h at 80°C. Thereafter excess phosphoryl chloride was discharged at room temperature, which also brought down the product. The mixture was subsequently stirred overnight at room temperature and filtered with suction, and the filter residue was washed with methanol, leaving 8.71 g (45.2%) of a product of the formula

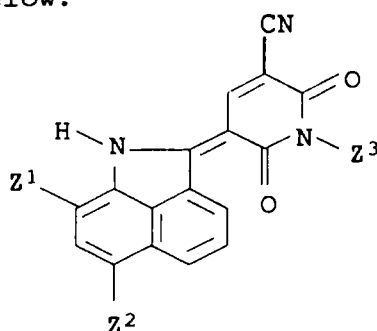
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(mp.: 212°C; $\lambda_{\max}$: 507 nm, 544 nm, in CH₂Cl₂)

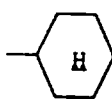
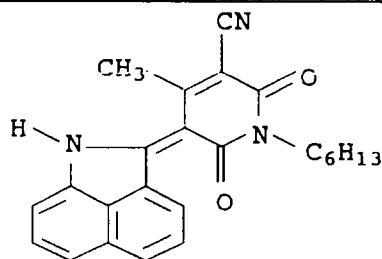
10 The same method can be used to obtain the naphtholactam derivatives listed below:

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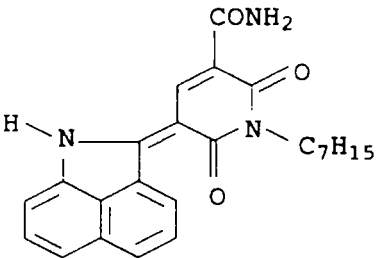
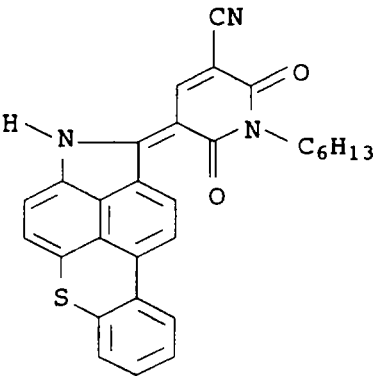


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Ex. No.	Z ¹	Z ²	Z ³	mp. [°C]	$\lambda_{\max}$ (CH ₂ Cl ₂) [nm]	Hue on polyester
5	H	COC ₆ H ₅	C ₆ H ₁₃	> 230	510, 550	red
6	H	SC ₆ H ₅	C ₆ H ₁₃	199–205	518, 556	violet
7	H	Br	C ₆ H ₁₃	> 230	520, 560	red
8	Br	Br	C ₆ H ₁₃	> 230	524, 564	red
9	H	Cl	C ₆ H ₁₃	> 230	520, 560	red
10	H	COC ₃ H ₇	C ₆ H ₁₃	158–166	510, 548	red
11	H	COC ₆ H ₅	CH ₂ (C ₂ H ₅)C ₄ H ₉	102–156	510, 550	red
12	H	Br	C ₃ H ₆ OC ₂ H ₅	118–135	520, 558	red
13	H	COC ₃ H ₇	C ₃ H ₆ OC ₂ H ₅	120–145	360, 548	red
14	H	Cl	C ₃ H ₆ OC ₂ H ₅		518, 558	red
15	H	Br	CH ₂ (C ₂ H ₅)C ₄ H ₉	217–220	518, 560	red
16	H	NO ₂	CH ₂ (C ₂ H ₅)C ₄ H ₉	> 230	556	violet

Ex. No.	Z ¹	Z ²	Z ³	mp. [°C]	λ _{max} (CH ₂ Cl ₂) [nm]	Hue on polyester	
5	17	H	COC ₃ H ₇	CH ₂ (C ₂ H ₅)C ₄ H ₉	168–177	510, 548	red
	18	H	SO ₂ CH ₃	CH ₂ (C ₂ H ₅)C ₄ H ₉	190–204	520, 560	red
	19	H	Br	C ₂ H ₄ C ₆ H ₅	> 230	520, 560	red
10	20	H	NO ₂	C ₂ H ₄ C ₆ H ₅	> 230	518, 556	red
	21	H	COC ₃ H ₇	C ₂ H ₄ C ₆ H ₅	219–228	510, 548	red
	22	H	Cl	C ₂ H ₄ C ₆ H ₅	> 230	520, 560	red
15	23	H	SO ₂ CH ₃	C ₂ H ₄ C ₆ H ₅	> 230	518, 558	red
	24	H	NO ₂	C ₆ H ₁₃		518, 556	red
	25	H	SO ₂ CH ₃	C ₆ H ₁₃		518, 558	red
20	26	H	C≡CC(CH ₃) ₂ OH	C ₆ H ₁₃		570	violet
	27	H	CH=C(CH ₃)COOC ₁₃ H ₂₇	C ₆ H ₁₃		564	red
	28	H	H	(CH ₂) ₃ O(CH ₂) ₂ OC ₆ H ₅	136	507, 544	
25	29	H	H	CH ₂ (C ₂ H ₅)C ₄ H ₉	181–194	506, 544	
	30	H	H	C ₂ H ₄ C ₆ H ₅	> 250	507, 544	
	31	H	H	C ₆ H ₁₃	218	507, 544	
30	32	H	H	CH ₂ C(CH ₃) ₃		523, 557	red
	33	H	H				red
	34	H	H	C ₂ H ₄ (C ₂ H ₅)C ₄ H ₉			red
40	35						(mp.: 189°C; λ _{max} : 524 nm, 557 nm, in CH ₂ Cl ₂)
45							

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Ex. No.	Z ¹	Z ²	Z ³	mp. [°C]	$\lambda_{\max}$ (CH ₂ Cl ₂) [nm]	Hue on polyester
5 36 10						
			(mp.: 250°C; $\lambda_{\max}$: 515 nm, 552 nm, in N,N-dimethylformamide)			
15 37 20						
			(mp.: 618 nm, 672 nm, in CH ₂ Cl ₂)			

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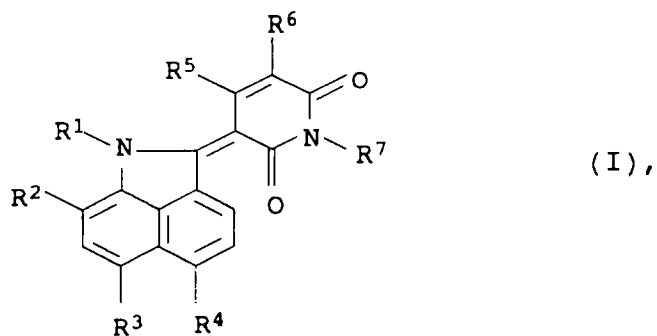
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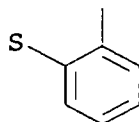
We claim:

1. A process for preparing naphtholactam derivatives of the formula I



where

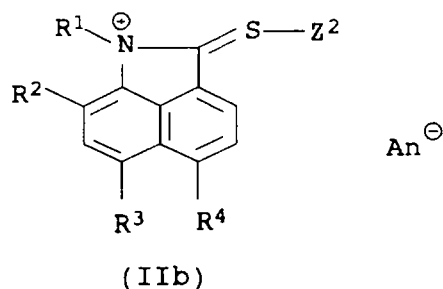
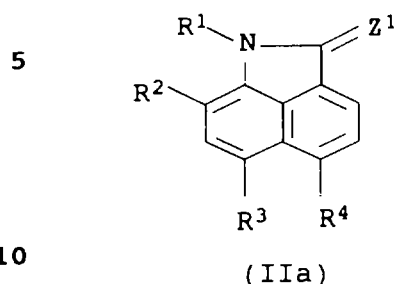
- R¹ is hydrogen, substituted or unsubstituted C₁-C₆-alkyl, C₅-C₇-cycloalkyl or substituted or unsubstituted phenyl,
- R² and R³ are independently of each other hydrogen, C₁-C₈-alkanoyl, substituted or unsubstituted benzoyl, substituted or unsubstituted C₂-C₄-alkyl, substituted or unsubstituted C₂-C₄-alkenyl, substituted or unsubstituted C₂-C₄-alkynyl, halogen, nitro, sulfamoyl, hydroxyl, mercapto, C₁-C₆-alkoxy, substituted or unsubstituted phenoxy, C₁-C₆-alkylthio, substituted or unsubstituted phenylthio, C₁-C₆-alkylsulfonyl or substituted or unsubstituted phenylsulfonyl,
- R⁴ is hydrogen or together with R³ a radical of the formula



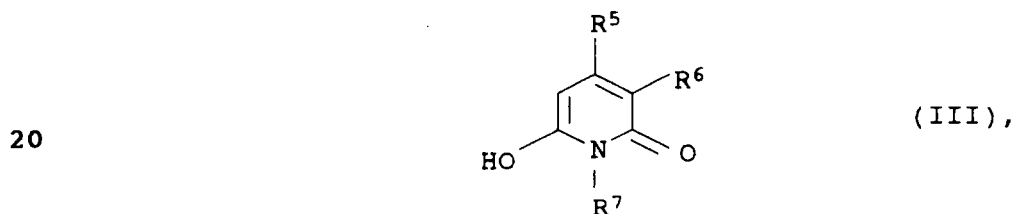
- R⁵ is hydrogen or C₁-C₆-alkyl,
- R⁶ is cyano, carbamoyl, mono- or di(C₁-C₄-alkyl)carbamoyl, carboxyl or C₁-C₄-alkoxycarbonyl, and
- R⁷ is substituted C₁-C₄-alkyl or substituted or unsubstituted C₅-C₁₃-alkyl with or without interruption by from 1 to 3 oxygen atoms in ether function, by from 1 to 3 sulfur atoms or by from 1 to 3 imino or C₁-C₄-alkylimino

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groups, or is benzoyl, which comprises condensing a naphtholactam of the formula IIa or IIb



15 where Z¹ is oxygen or sulfur, Z² is C₁-C₄-alkyl, An[⊖] is the equivalent of an anion and R¹, R², R³ and R⁴ are each as defined above, with a pyridone of the formula III

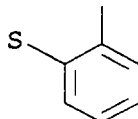


where R⁵, R⁶ and R⁷ are each as defined above.

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2. A process as claimed in claim 1 wherein R¹ is hydrogen.
3. A process as claimed in claim 1 wherein R² is hydrogen.
- 30 4. A process as claimed in claim 1 wherein R³ is hydrogen, C₂-C₄-alkanoyl, benzoyl, halogen, nitro, C₁-C₆-alkylthio, phenylthio or together with R⁴ a radical of the formula

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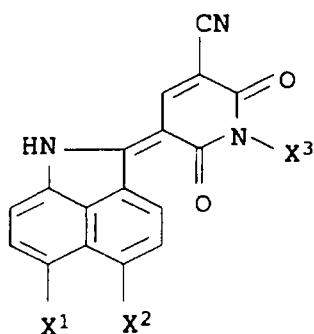
- 40 5. A process as claimed in claim 1 wherein R⁵ is hydrogen or methyl.

6. A process as claimed in claim 1 wherein R⁶ is cyano.

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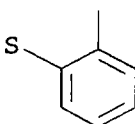
7. A process as claimed in claim 1 wherein R^7 is C_5-C_{13} -alkyl with or without substitution by phenoxy and with or without interruption by from 1 to 3 oxygen atoms in ether function, or is phenylethyl.
- 5 8. A process as claimed in claim 1 wherein R^7 is C_6-C_{13} -alkyl, C_5-C_{13} -alkyl which is interrupted by 1 or 2 oxygen atoms in ether function, or phenylethyl.
- 10 9. A process as claimed in claim 1 for naphtholactam derivatives of the formula Ia



(Ia)

where

- 25 X^1 is hydrogen, C_2-C_4 -alkanoyl, benzoyl, halogen, nitro, C_1-C_6 -alkylthio or phenylthio,
- X^2 is hydrogen or together with X^1 a radical of the formula



and

- 35 X^3 is C_5-C_{13} -alkyl with or without substitution by phenoxy and with or without interruption by from 1 to 3 oxygen atoms in ether function, or is phenylethyl.

10. The use of the naphtholactam derivatives of claim 1 for
40 dyeing or printing textile materials.

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