UV-spectra

The present spectra set includes the substances which were investigated to be used as internal standards in MEKC. The UV-spectra are additional support to the work puplished in the journal Electrophoresis 2007, 28, 1798-1804 and give useful informations whether substances match the required detection wavelength. The set includes the following substance:

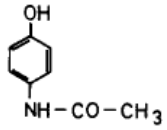
- Acetaminophen
- Resorcinol
- Caffeine
- Phenol
- Acetanilide
- Glibenclamide
- Naproxen
- Phenacetin
- 4-Hydroxybenzoic acid
- Nicotinic acid
- Salicylic acid
- Aminobenzoic acid
- Benzocaine
- Trimethoprim
- Neostigmine bromide
- Ephedrine hydrochloride

The UV spectra are taken from the "UV and IR Spectra of Some Important Drugs" (Dibbern, H.W. (Ed.), Editor Cantor, Aulendorf 2005)

The order of the present substances correlates with the capicity factor obtained during the investigation.

Acetaminophen

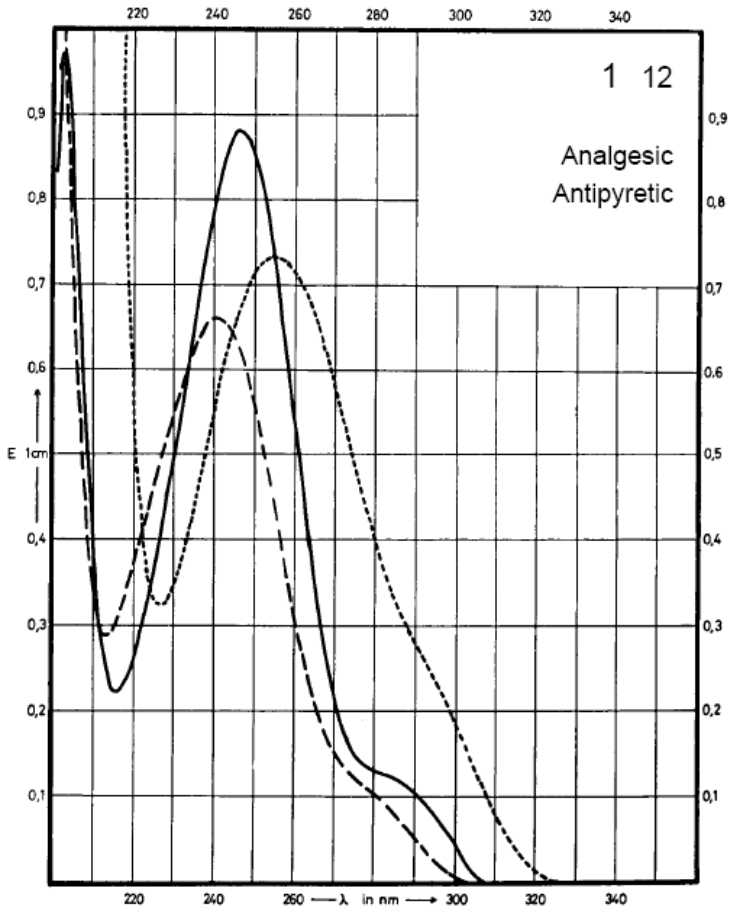
Name PARACETAMOL



M_r 151.2

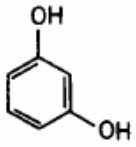
Concentration 1 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl – – – –	0.1 M NaOH -··-··-
Maximum of absorption	247 nm		240 nm	255 nm
$E^{1\%}_{1cm}$	860		642	710
ε	12850		9710	10740



Resorcinol

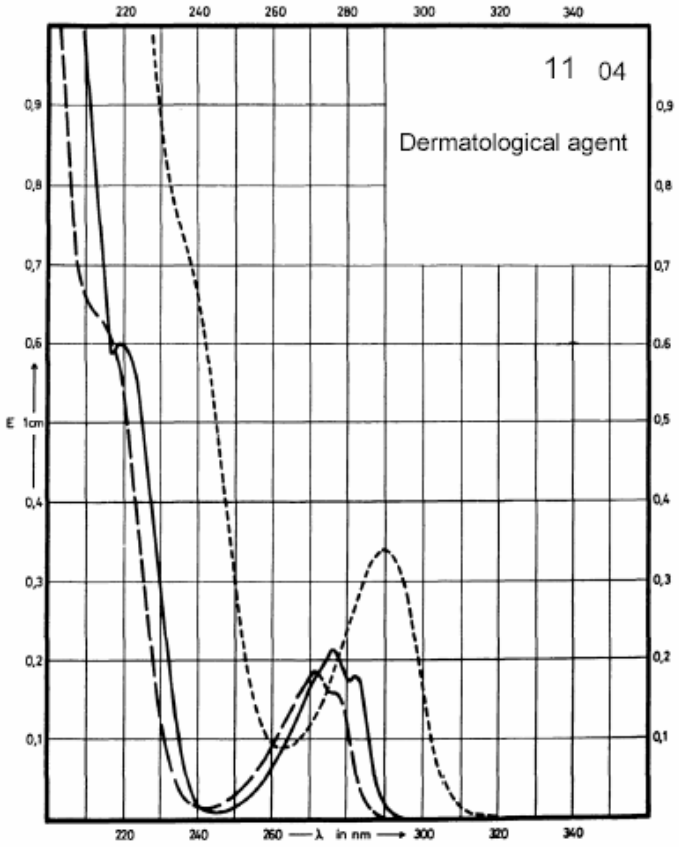
Name RESORCINOL



M_r 110.1

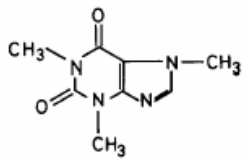
Concentration 1 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl - - - -	0.1 M NaOH ------
Maximum of absorption	276 nm		272 nm	289 nm
$E^{1\%}_{1cm}$	194		169	312
ε	2140		1860	3440



Caffeine

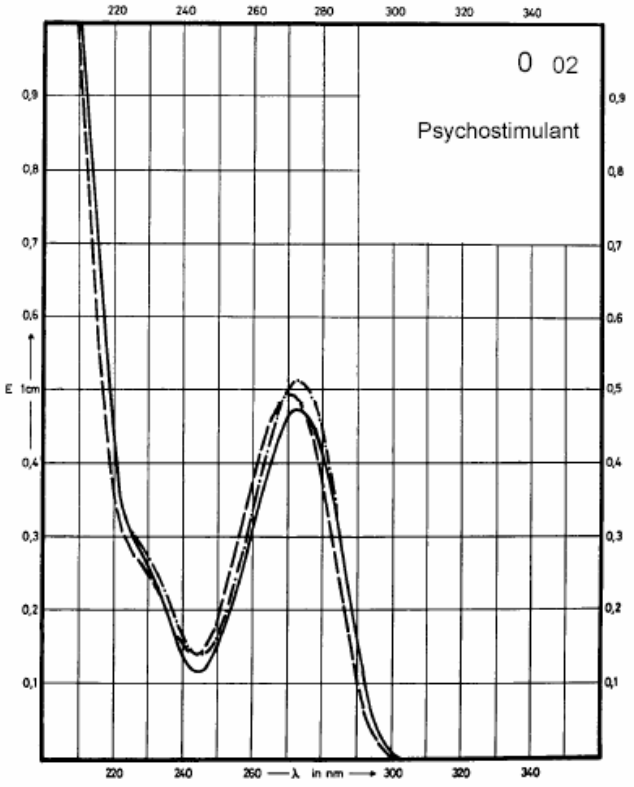
Name CAFFEINE



M_r 194.2

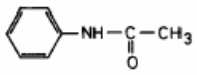
Concentration 1 mg / 100 ml

Solvent Symbol	Methanol	Water	0.1 M HCl	0.1 M NaOH
Maximum of absorption	273 nm	273 nm	270 nm	273 nm
$E^{1\%}_{1cm}$	475	515	495	510
ε	9220	10000	9610	9900



Acetanilide

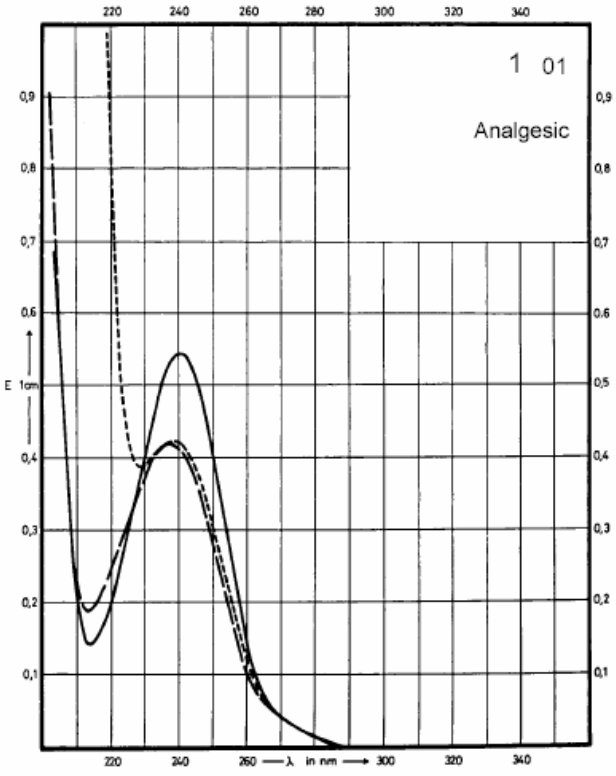
Name ACETANILIDE



M_r 135.2

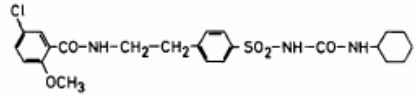
Concentration 0.5 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl – – –	0.1 M NaOH ·····—
Maximum of absorption	241 nm		237 nm	239 nm
$E^{1\%}_{1cm}$	1080		815	820
ε	14330		11020	11090



Glibenclamide

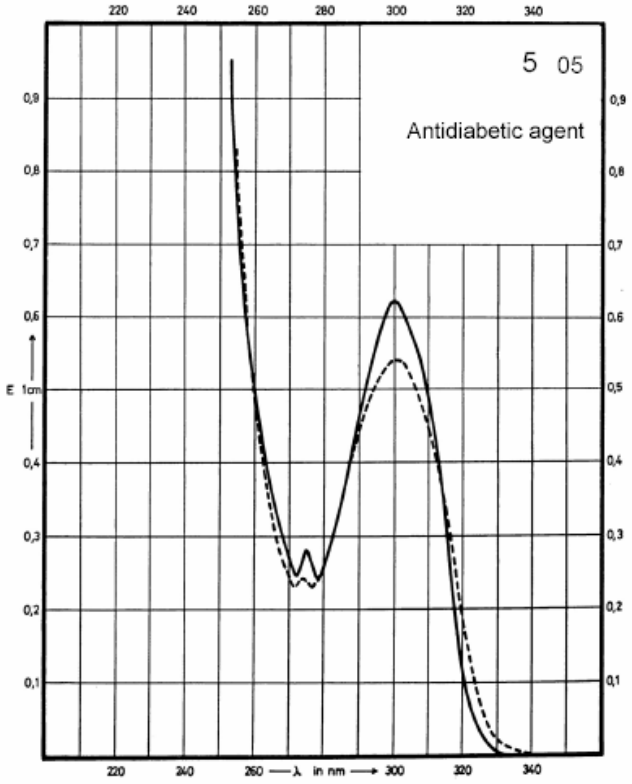
Name GLIBENCLAMIDE



M_r 494.0

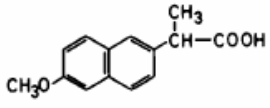
Concentration 10 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl – – –	0.1 M NaOH -------
Maximum of absorption	300 nm 274 nm			301 nm 274 nm
$E^{1\%}_{1cm}$	62.4 28.2			54.3 24.1
ε	3080 1390			2680 1190



Naproxen

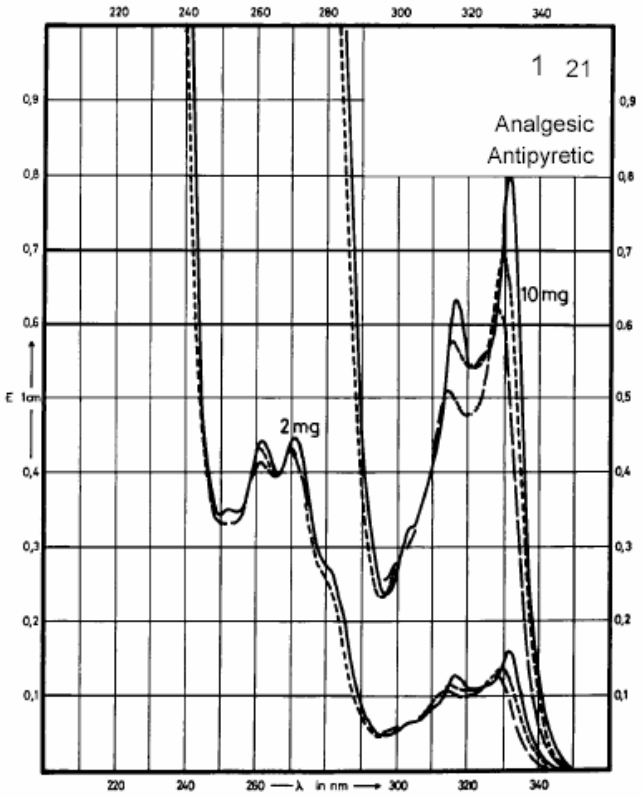
Name NAPROXEN



M_r 230.3

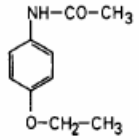
Concentration 2 mg / 100 ml
10 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl - - - - -	0.1 M NaOH ------
Maximum of absorption	331 nm 316 nm 271; 262 nm		328 nm 315 nm 272; 262 nm	330 nm 316 nm 271; 261 nm
$E^{1\%}_{1cm}$	80 63 225; 220		63 52 215; 208	70 52 218; 218
ε	1840 1450 5180; 5070		1450 1200 4950; 4790	1610 1200 5020; 5020



Phenacetin

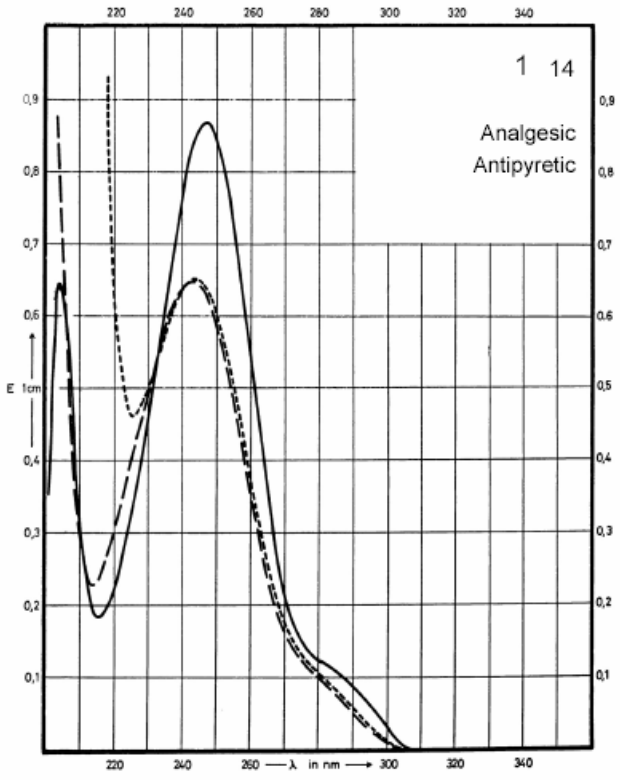
Name PHENACETIN



M_r 179.2

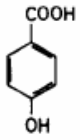
Concentration 1 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl – – –	0.1 M NaOH ·····—
Maximum of absorption	249 nm		244 nm	245 nm
$E^{1\%}_{1cm}$	864		647	657
ε	15480		11590	11770



4-Hydroxybenzoic acid

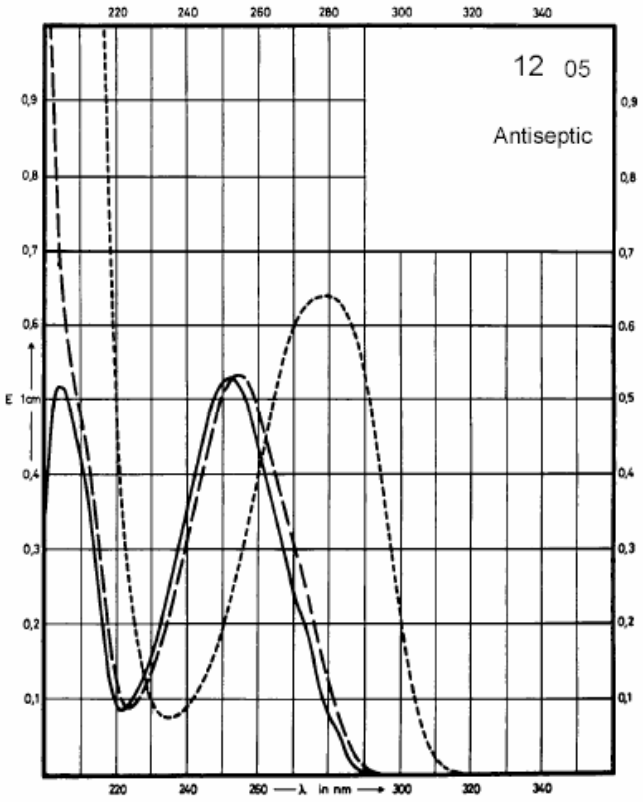
Name 4-HYDROXYBENZOIC ACID



M_r 138.1

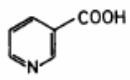
Concentration 0.5 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl - - - -	0.1 M NaOH ------
Maximum of absorption	252 nm		255 nm	279 nm
$E^{1\%}_{1cm}$	1068		1078	1290
ε	14750		14690	17810



Nicotinic acid

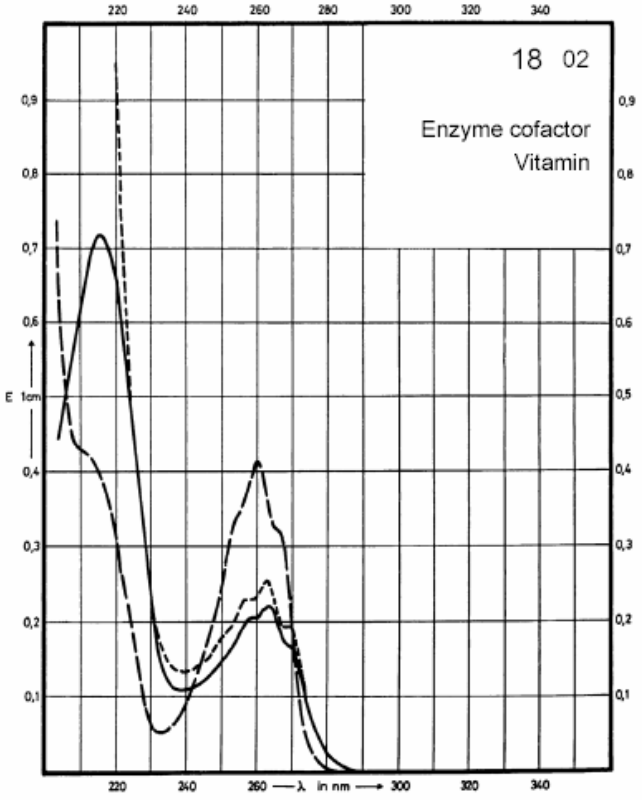
Name NICOTINIC ACID



M_r 123.1

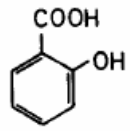
Concentration 1 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl - - - - -	0.1 M NaOH ------
Maximum of absorption	263 nm		260 nm	262 nm
$E^{1\%}_{1cm}$	225		420	260
ε	2770		5170	3200



Salicylic acid

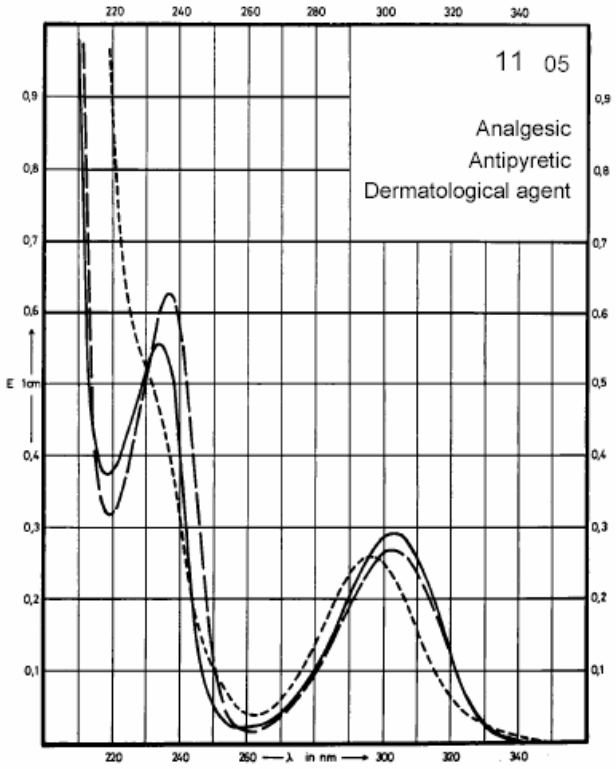
Name SALICYLIC ACID



M_r 138.1

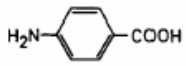
Concentration 1 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl – – –	0.1 M NaOH ······
Maximum of absorption	302 nm 234 nm		303 nm 237 nm	296 nm
$E^{1\%}_{1cm}$	285 547		262 613	254
ε	3940 7550		3620 8470	3510



Aminobenzoic acid

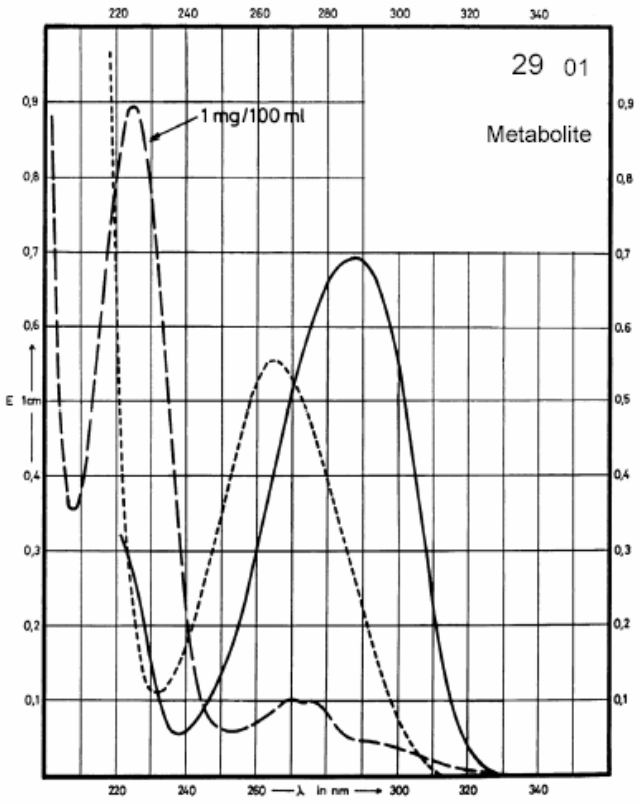
Name AMINOBENZOIC ACID



M_r 137.1

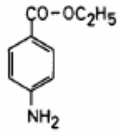
Concentration 0.5 mg / 100 ml
1 mg / 100 ml

Solvent Symbol	Methanol ———	Water - · - · -	0.1 M HCl - - - - -	0.1 M NaOH ·····
Maximum of absorption	288 nm		270 nm 225 nm	275 nm
$E^{1\%}_{1cm}$	1335		95 854	1087
ε	18300		1300 11710	14630



Benzocaine

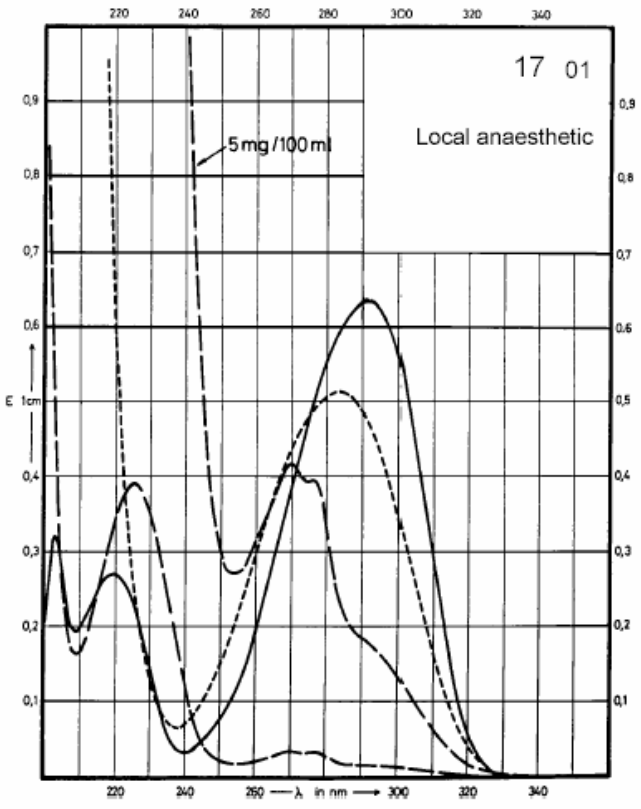
Name BENZOCAINE



M_r 165.2

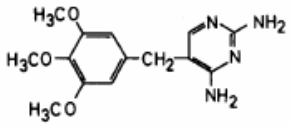
Concentration 0.5 mg / 100 ml
5 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl - - - - -	0.1 M NaOH ·····—
Maximum of absorption	292 nm 220 nm		270 nm 226 nm	284 nm
$E^{1\%}_{1cm}$	1246 538		79 770	1002
ε	20580 8890		1310 12720	16550



Trimethoprim

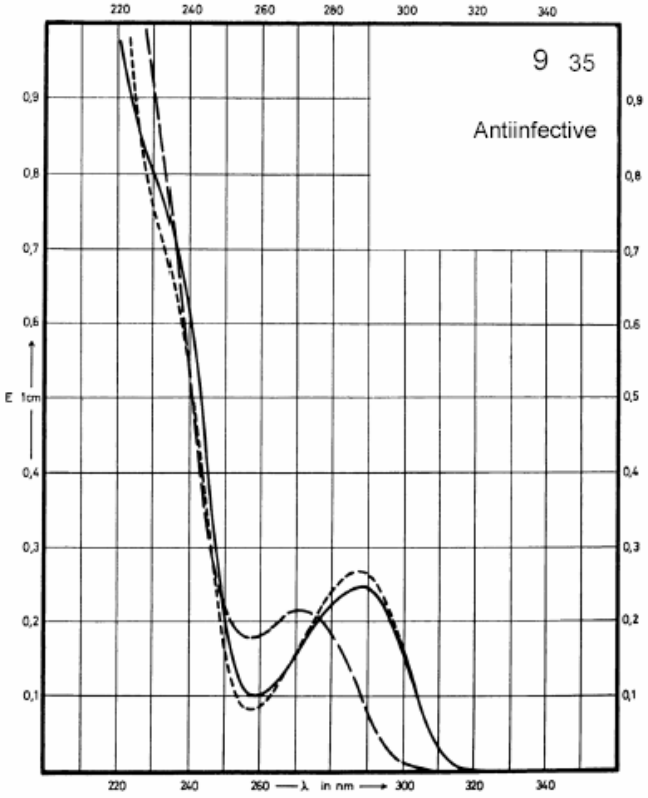
Name TRIMETHOPRIM



M_r 290.3

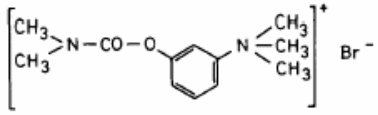
Concentration 1 mg / 100 ml

Solvent Symbol	Methanol	Water	0.1 M HCl	0.1 M NaOH
Maximum of absorption	288 nm		271 nm	288 nm
$E^{1\%}_{1cm}$	232		208	252
ε	6730		6040	7320



Neostigmine bromide

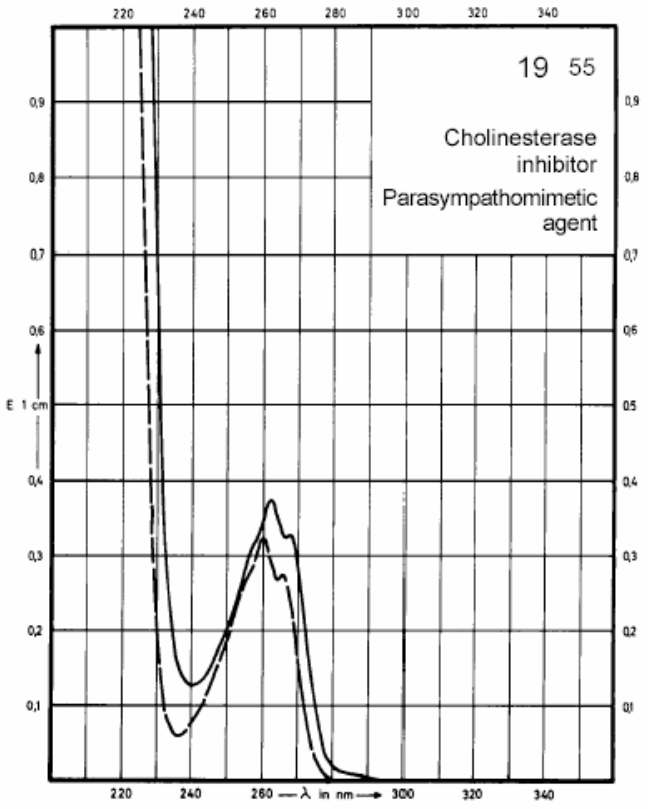
Name NEOSTIGMINE BROMIDE



M_r 303.2

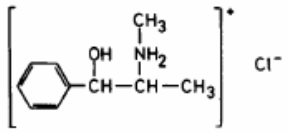
Concentration 20 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl - - - -	0.1 M NaOH ·····
Maximum of absorption	267 nm 261 nm		266 nm 260 nm	Decomposition observed
$E^{1\%}_{1cm}$	16.2 18.5		13.6 15.9	
ε	490 560		410 480	



Ephedrine hydrochlorid

Name EPHEDRINE HYDROCHLORIDE



M_r 201.7

Concentration 50 mg / 100 ml

Solvent Symbol	Methanol ———	Water -·-·-	0.1 M HCl - - - - -	0.1 M NaOH ------
Maximum of absorption	262 nm 256 nm 250 nm		262 nm 256 nm 250 nm	263 nm 257 nm 251 nm
$E^{1\%}_{1cm}$	8.2 10.8 8.4		7.2 9.4 7.4	7.4 9.7 7.8
ε	185 220 170		145 190 150	150 195 160