PATENT SPECIFICATION

Application Date: Oct. 17, 1944. No. 20086/44. 577,200
(Patent of Addition to No. 573,578 dated Nov. 11, 1941).
Complete Specification Left: Aug. 31, 1945.
Complete Specification Accepted: May 8, 1946.

PROVISIONAL SPECIFICATION

Improvements relating to the Preparation of Therapeutic Substances

We, BOOTS PURE DRUG COMPANY LIMITED, a Company organised under the laws of Great Britain, of Station Street, Nottingham, HERBERT AUBREY STEVENSON, WALLACE FRANK SHORT, and CHARLES ALFRED HILL, all British subjects, and all of the said Company's address, do hereby declare the nature of this invention to be as follows:—

This invention relates to the preparation of substances having therapeutic properties and is, moreover, an improvement in or modification of that set forth in patent specification No. 573,578.

In that prior application a method is set forth for the preparation of stable compounds of acridine antiseptics with sulphathiazole which have certain advantages in comparison with 2:8-diaminoacridine (proflavine) itself, especially in cases in which solutions approaching neutrality are essential. The process therein described consists in effecting a direct reaction between molecular proportions of sulphathiazole and the acridine antiseptic or between equivalent amounts of salts which, on admixture, give rise to those reactants.

It has now been discovered that stable compounds, having definite antistreptococcal properties, of acridine antiseptics with sulphanilylamino-dimethyl-pyrimidines, such as for example, sulphanilyldimethyl-pyrimidine 2-(4¹-aminobenzenesulphonylamino)-4:6 dimethylpyrimidine may be produced by similar processes.

Thus, according to the present invention, such compounds are formed by effecting reactions between molecular proportions of an acridine antiseptic and a sulphanilylaminodimethylpyrimidine or between equivalent amounts of salts which give rise to those reactants on admixture.

In order that the nature of the invention may be fully understood, some examples of processes in accordance therewith will now be described.

EXAMPLE 1.

In the preparation of a compound of sulphanilylaminodimethylpyrimidine and 5 - Aminoacridine; sulphanilylaminodimethylpyrimidine (5.56 gms.: 0.02 mol.) is dissolved in boiling alcohol (200 ml.). 5-Aminoacridine (3.88 gms.: 0.02 mol.) is also added. The whole gives a clear solution which is filtered and cooled. Pale yellow crystals separate which melt at 229° C. with decomposition.

EXAMPLE 2.

In the preparation of a compound of sulphanilylaminodimethylpyrimidine and proflavine, a solution of sulphanilylaminodimethylpyrimidine (2.78 gms.: 0.01 mol.) and 2:8-diaminoacridine (2.09 gms.: 0.01 mol.) in boiling water (250 ml.) is filtered and cooled. The product is filtered off, washed with water and dried at 100° C.

The product separates in orange coloured prisms, which melt at 136°—137° C., and retains a molecule of water after drying at 100° C.

Dated this 17th day of October, 1944.
For the Applicants:
GILL, JENNINGS & EVERY,
Chartered Patent Agents,
51/52, Chancery Lane, London, W.C.2.

COMPLETE SPECIFICATION

Improvements relating to the Preparation of Therapeutic Substances

We, BOOTS PURE DRUG COMPANY LIMITED, a Company organised under the laws of Great Britain, of Station Street, Nottingham, HERBERT AUBREY STEVENSON, WALLACE FRANK SHORT, and CHARLES ALFRED HILL, all British subjects, and all of the said Company's address, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly

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described and ascertained in and by the following statement:—

This invention relates to the preparation of substances having therapeutic properties and is, moreover, an improvement in or modification of that set forth in patent specification No. 573,578.

In that prior application a method is set forth for the preparation of stable compounds of amino-acridines with sulphathiazole which have certain advantages in comparison with 2:8-diaminoacridine sulphate (proflavine) itself, especially in cases in which solutions approaching neutrality are essential. The process therein described consists in treating molecular proportions of sulphathiazole with the amino-acridine or between equivalent amounts of salts which, on admixture, give rise to those reactants.

It has now been discovered that stable compounds, having definite antistreptococcal properties, of amino-acridines with sulphanilylamino-dimethyl-pyrimidines, such as for example, sulphadimethylpyrimidine (2-4¹-aminobenzenesulphonylamino-4:6 dimethylpyrimidine) may be produced by similar processes. Thus, according to the present invention, such compounds are formed by treating an amino-acridine with the sulphanilylaminodimethylpyrimidine or as an alternative salts which give rise to those reactants on admixture may be employed.

In order that the invention may be fully understood and readily carried into effect, some examples of processes in accordance therewith will now be described.

EXAMPLE 1.

In the preparation of a compound of sulphadimethylpyrimidine and 5-aminoacridine, sulphadimethylpyrimidine (5.56 gms.:0.02 mol.) is dissolved in boiling alcohol (200 ml.). 5-Aminoacridine (3.88 gms.:0.02 mol.) is also added. The whole gives a clear solution which is filtered and cooled. Pale yellow crystals separate which melt at 229° C. with decomposition.

EXAMPLE 2.

In the preparation of a compound of sulphadimethylpyrimidine and 2:8-diaminoacridine, a solution of sulphadimethylpyrimidine (2.78 gms.:0.01 mol.) and 2:8-diamino-acridine (2.09 gms.:0.01 mol.) in boiling water (250 ml.) is filtered and cooled. The product is filtered off, washed with water and dried at 100° C.

The product separates in orange coloured prisms, which melt at 136°—137° C., and retains a molecule of water after drying at 100° C.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A process for the production of a stable compound of an amino-acridine and a sulphanilylaminodimethylpyrimidine which consists in treating the amino-acridine with the sulphanilylaminodimethylpyrimidine.

2. A modification of the process according to Claim 1, in which salts are employed which generate the amino-acridine and the sulphanilylaminodimethylpyrimidine on admixture.

3. A process according to Claim 1, in which 5-aminoacridine and sulphadimethylpyrimidine are brought together in solution.

4. A process according to Claim 1, in which 2:8 diaminoacridine and sulphadimethylpyrimidine are brought together in solution.

5. Compounds of amino-acridines and sulphanilylaminodimethylpyrimidines, when prepared or produced by the processes herein claimed or by their obvious chemical equivalents.

6. A stable compound of 5-aminoacridine and sulphadimethylpyrimidine, when prepared or produced by the processes claimed in Claims 1, 2 and 3 or by their obvious chemical equivalents.

7. A stable compound of 2:8 diaminoacridine and sulphadimethylpyrimidine, when prepared or produced by the processes claimed in Claims 1, 2 and 4, or by their obvious chemical equivalents.

Dated this 31st day of August, 1945.

For the Applicants:
GILL, JENNINGS & EVERY,
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Gill Jennings Every

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described and ascertained in and by the following statement:—

This invention relates to the preparation of substances having therapeutic properties and is, moreover, an improvement in or modification of that set forth in patent specification No. 573,578.

In that prior application a method is set forth for the preparation of stable compounds of amino-acridines with sulphathiazole which have certain advantages in comparison with 2:8-diamino-acridine sulphate (proflavine) itself, especially in cases in which solutions approaching neutrality are essential. The process therein described consists in treating molecular proportions of sulphathiazole with the amino-acridine or between equivalent amounts of salts which, on admixture, give rise to those reactants.

It has now been discovered that stable compounds, having definite antistreptococcal properties, of amino-acridines with sulphanilylamino-dimethyl-pyrimidines, such as for example, sulphadimethylpyrimidine (2-4¹-aminobenzene-sulphonylamino-4:6 dimethylpyrimidine) may be produced by similar processes.

Thus, according to the present invention, such compounds are formed by treating an amino-acridine with the sulphanilylaminodimethylpyrimidine or as an alternative salts which give rise to those reactants on admixture may be employed.

In order that the invention may be fully understood and readily carried into effect, some examples of processes in accordance therewith will now be described.

EXAMPLE 1.

In the preparation of a compound of sulphadimethylpyrimidine and 5-amino-acridine, sulphadimethylpyrimidine (5.56 gms.: 0.02 mol.) is dissolved in boiling alcohol (200 ml.). 5-Aminoacridine (3.88 gms.: 0.02 mol.) is also added. The whole gives a clear solution which is filtered and cooled. Pale yellow crystals separate which melt at 229° C. with decomposition.

EXAMPLE 2.

In the preparation of a compound of sulphadimethylpyrimidine and 2:8-diaminoacridine, a solution of sulphadimethylpyrimidine (2.78 gms.:0.01 mol.) and 2:8-diamino-acridine (2.09 gms.:0.01 mol.) in boiling water (250 ml.) is filtered and cooled. The product is filtered off, washed with water and dried at 100° C.

The product separates in orange coloured prisms, which melt at 136°—137° C., and retains a molecule of water after drying at 100° C.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A process for the production of a stable compound of an amino-acridine and a sulphanilylaminodimethylpyrimidine which consists in treating the amino-acridine with the sulphanilylaminodimethylpyrimidine.

2. A modification of the process according to Claim 1, in which salts are employed which generate the amino-acridine and the sulphanilylaminodimethylpyrimidine on admixture.

3. A process according to Claim 1, in which 5-aminoacridine and sulphadimethylpyrimidine are brought together in solution.

4. A process according to Claim 1, in which 2:8 diaminoacridine and sulphadimethylpyrimidine are brought together in solution.

5. Compounds of amino-acridines and sulphanilylaminodimethylpyrimidines, when prepared or produced by the processes herein claimed or by their obvious chemical equivalents.

6. A stable compound of 5-amino-acridine and sulphadimethylpyrimidine, when prepared or produced by the processes claimed in Claims 1, 2 and 3 or by their obvious chemical equivalents.

7. A stable compound of 2:8 diamino-acridine and sulphadimethylpyrimidine, when prepared or produced by the processes claimed in Claims 1, 2 and 4, or by their obvious chemical equivalents.

Dated this 31st day of August, 1945.

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Gill Jennings & Every