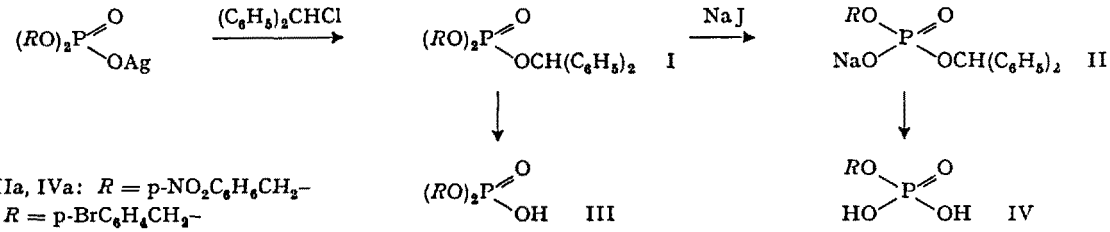
Brèves communications – Kurze Mitteilungen – Brevi comunicazioni – Brief Reports

Diphenylmethylester der Phosphorsäure

Derivate der Phosphor- bzw. Pyrophosphorsäure, die sich zur Einführung des Phosphorsäurerestes in Hydroxy- oder Aminoverbindungen eignen und die nach erfolgter Kupplung unter milden Bedingungen wieder abgespalten werden können, sind seit längerer Zeit bekannt[1-6].

Wir haben gefunden, dass die Diphenylmethylgruppe (DPM)[7] in vielen Fällen für diese Zwecke gut geeignet ist.



Ia, IIa, IIIa, IVa: R = p-$NO_2C_6H_6CH_2$–
Ib, IIIb: R = p-$BrC_6H_4CH_2$–

Sie lässt sich unter besonders milden Bedingungen wieder entfernen.

Während z.B. Hydrogenolyse von Ia und Ib (Smp. 109–110°, Smp. 115–116°) alle Schutzgruppen auf einmal entfernt, gelingt die selektive Abspaltung der DPM-Gruppe und die Umwandlung zu IIIa und IIIb (Smp. 175°, Smp. 161–162°) durch Behandeln mit zwei Äquivalenten Salzsäure in Essigester bei Raumtemperatur oder noch einfacher durch 2–3min langes Erwärmen in Äthanol in fast quantitativer Ausbeute. Auch der Diester IIa, welcher durch selektive Entalkylierung aus Ia erhältlich ist[2], zeigt dasselbe Verhalten.

Summary. The diphenylmethyl group has been found to be suitable for the protection of phosphoric or pyrophosphoric acid in condensation reactions.

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'Anti-T' Agglutinins from *Areca catechu* Linn

Extensive serochemical studies of erythrocyte membrane ultrastructure are in progress[1,2]. Some of the so-called non-specific plant agglutinins are now included among the reagents used to probe the effects of enzymic microdissection of the red cell surface or the corresponding mucoids obtained from body fluids[3,4].

At first sight this may seem odd. The 'non-specific' plant agglutinins used in these studies are in fact highly specific. For example, the *Ricinus communis* agglutinin, the very first plant agglutinin to be discovered[5], was believed to be non-specific for over seventy years, until Bird[6-8] indicated that it is actually specific for the characteristic chemical configuration of the capsular polysaccharide of type XIV pneumococcus, and that its capacity to agglutinate human (or other) erythrocytes, or to precipitate blood group specific substances, was dependent on the chemical similarity between type XIV polysaccharide and the chemical backbone of the A, B, H and Le^a blood group substances. The anti-XIV specificity of this agglutinin has been confirmed by Uhlenbruck and Krüpe[3,4]. *Abrus precatorus* agglutinins are also anti-XIV[9]. However, as might be expected, there are subtle differences between the *Ricinus* and *Abrus* agglutinins and horse anti-XIV antibody[3,4,10].

The non-specific agglutinin of *Glycine soja* seeds is partly anti-T; it strongly agglutinates not only neuramidinase-treated erythrocytes but also those treated with

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proteolytic enzymes[11]. Thus it is possible that the *Glycine* agglutinin reacts with the ground structure of the MN blood groups[12]. The present communication is intended briefly to report that an agglutinin resembling anti-T is also present in the betel nut (*Areca catechu* Linn).

The *Areca* agglutinin, like that of *Glycine*, strongly agglutinates human erythrocytes treated with neuramidinase or with papain. It differs from the *Glycine* agglutinin in that it does not agglutinate rabbit erythrocytes or untreated human red cells, and is not inhibited by *d*-galactose and related sugars.

Absorption studies show that a single agglutinin acts on both papainized and neuramidinase-treated erythrocytes. It is hoped that the *Areca* agglutinin will also find application in charting the agglutinin receptors of the erythrocyte membrane[13].

Comparison of *Glycine soja* and *Areca catechu* agglutinins

Agglutination of red cells	Agglutinins from *Glycine soja*	*Areca catechu*
Rabbit	+++	–
Human, untreated (tested at 4°C)	++	–
Human, papainized	+++	+++
Human, neuramidinase treated	+++	+++
Inhibition by sugars		
d-Galactose, Lactose, Raffinose, *l*-Arabinose	inhibited	not inhibited
d-Glucose, Sucrose, Maltose, Mannose, Mannitol, Dulcitol	not inhibited	not inhibited

Zusammenfassung. Agglutinine aus Samen der *Areca catechu* Linn reagieren mit (1) dem T-Antigen und (2) einem Rezeptor der Erythrocytenoberfläche, der nach Behandlung mit Papain in Erscheinung tritt.

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Electron Microscopic Observations on Phagocytosis of Rabbit Spermatozoa in the Female Genital Tract

Uterine leukocytic infiltration occurs during estrus and following mating[1,2]. A similar response can be noted after estrogen stimulation[3,4]. Mobilization of leukocytes with phagocytosis of foreign bodies such as bacteria[5] and starch granules[6] has also been demonstrated in the uterine cavity. CHANG[7] and AUSTIN[8] have shown that many of the unfertilized spermatozoa are eliminated from the female genital tract by the phagocytic action of leukocytes. This report concerns light and electron microscopic observations on the mechanism of leukocytic phagocytosis of spermatozoa in rabbit uteri.

New Zealand female white rabbits, weighing between 4 and 5 kg, were housed separately from males for three weeks prior to the experiment. Half of the female rabbits were ovulated 12 h before operation with an intravenous injection of 500 IU of chorionic gonadotropin (Ayerst Laboratories, New York, N.Y., USA).

Ejaculates of sperm were collected from mature male rabbits weighing in excess of 5 kg. The volume of the ejaculates ranged between 0.8 and 2.0 ml, and the sperm counts were between 95 and 850 million per ml. Between 80 and 85% of the sperm showed good motility. Samples were studied with light and electron microscopy and no morphological abnormality was observed. Several specimens of spermatozoa were gently washed three times with calcium-free Krebs-Ringer solution at room temperature, and aliquots of the washed sperm were diluted to 2 ml in calcium-free Krebs-Ringer solution before injection.

In all surgical procedures, animals were anesthetized with 2.3 to 3.0 ml of Diabutol (Diamond Laboratories, Des Moines, Iowa). At operation the sperm were injected slowly with an 18 gauge needle into the lumen of the uterus at a point 1 cm distal to the bifurcation of the cervix. Approximately 45 to 220 million sperm were injected into each uterine tube. After varying periods of time, the uterine tubes were surgically removed and the lumina gently flushed with cold isotonic osmic acid. The

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