
CHAPTER VII

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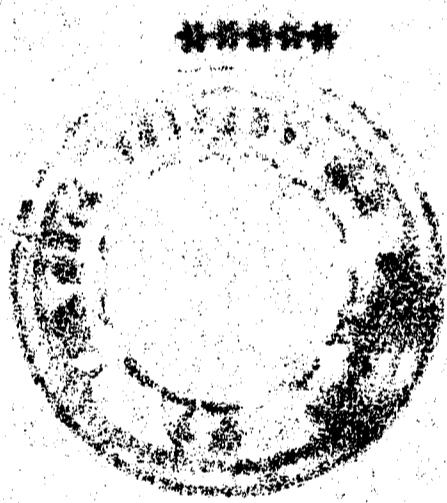
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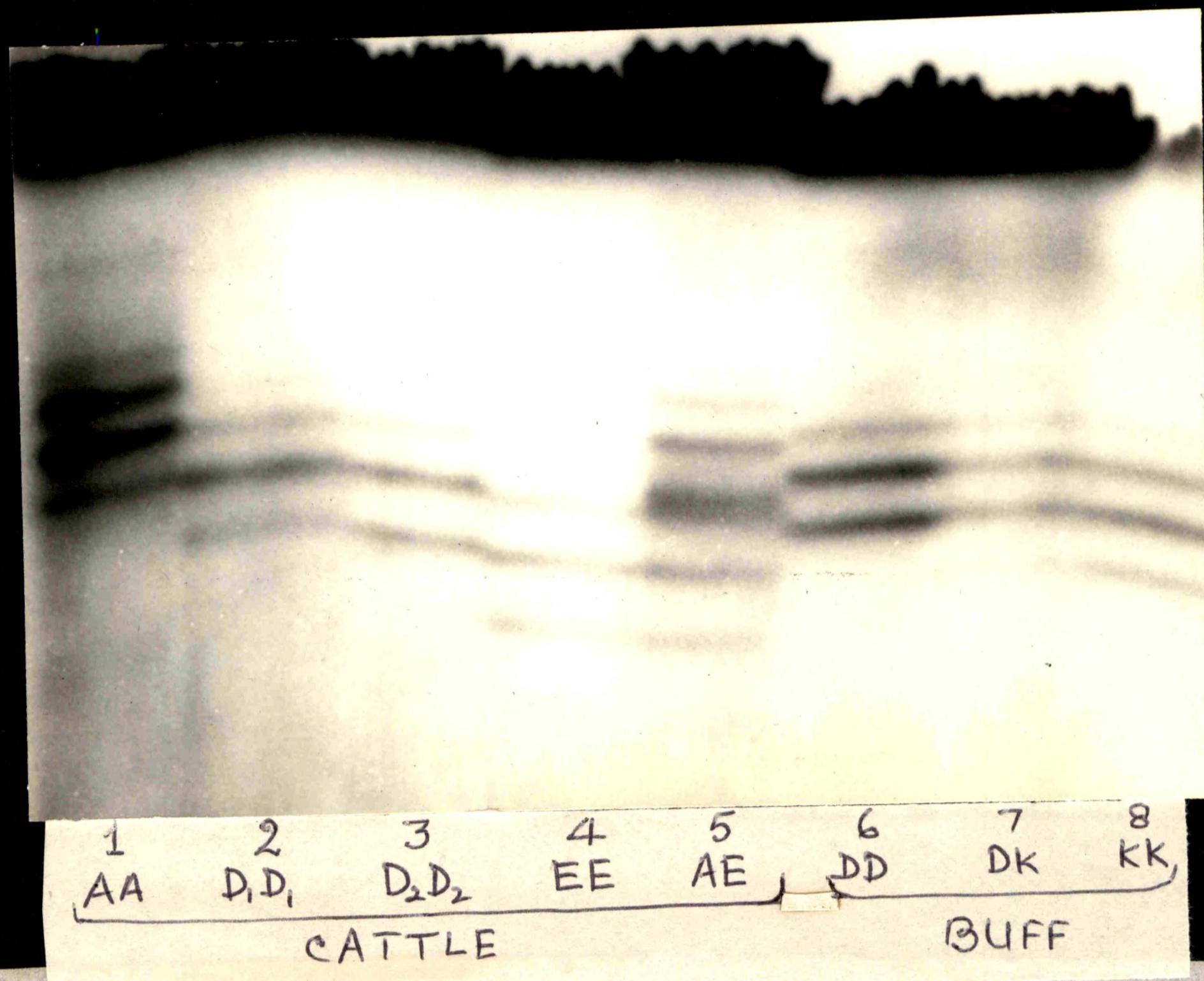
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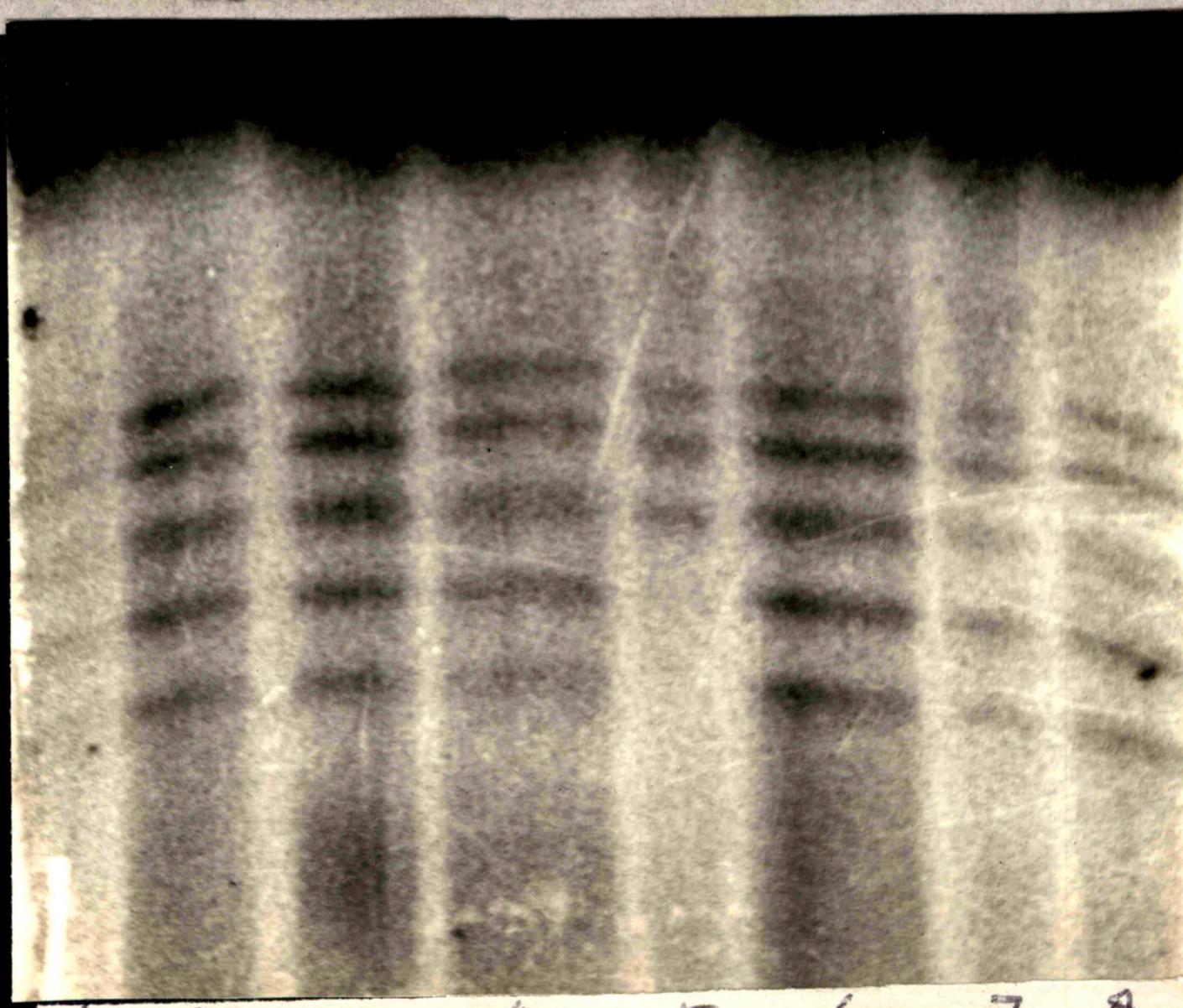
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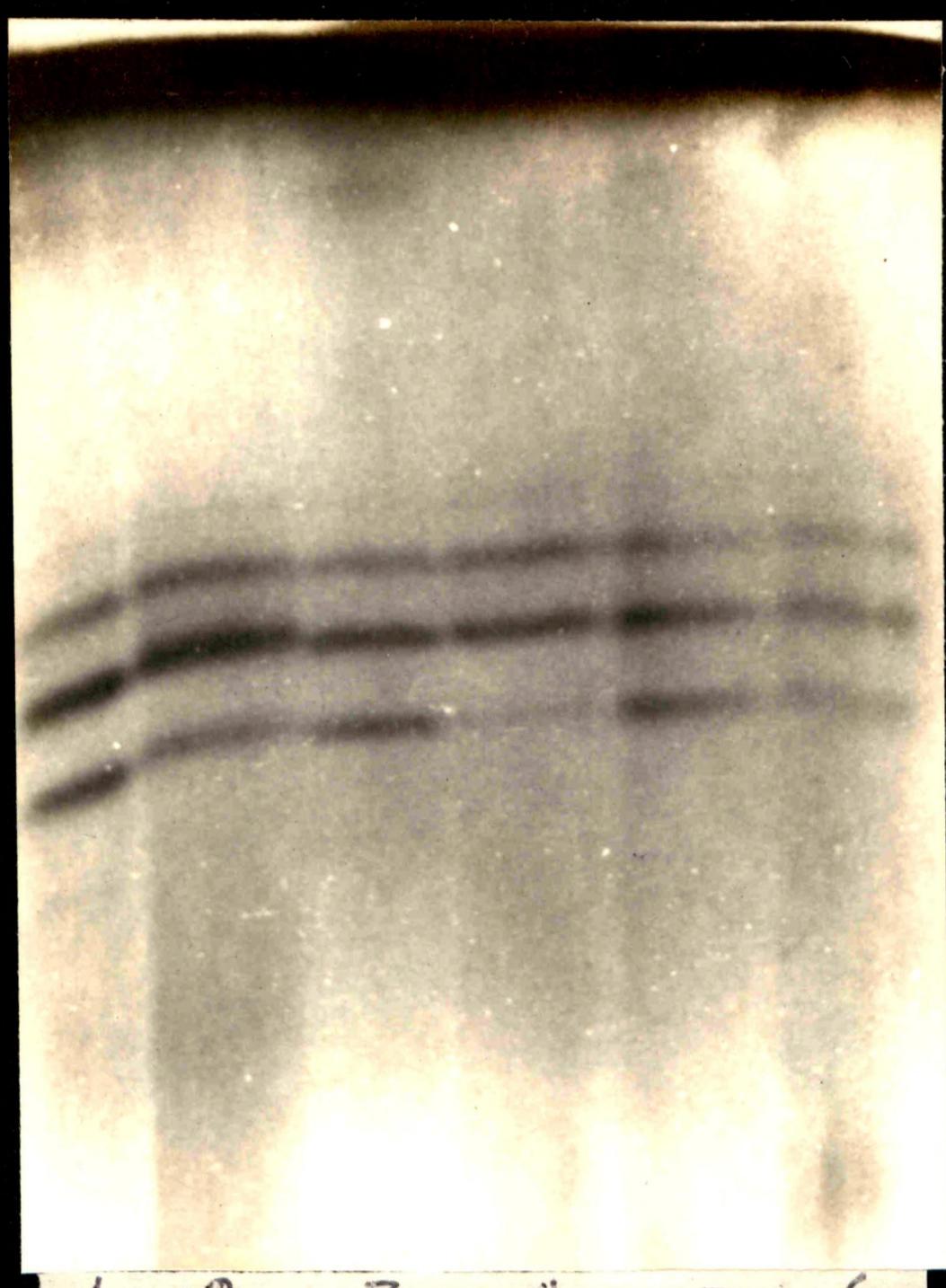
Photograph 4.1.1 :

Starch gel showing some standard transferrin phenotypes of cattle and buffaloes used for isolation and characterisation.

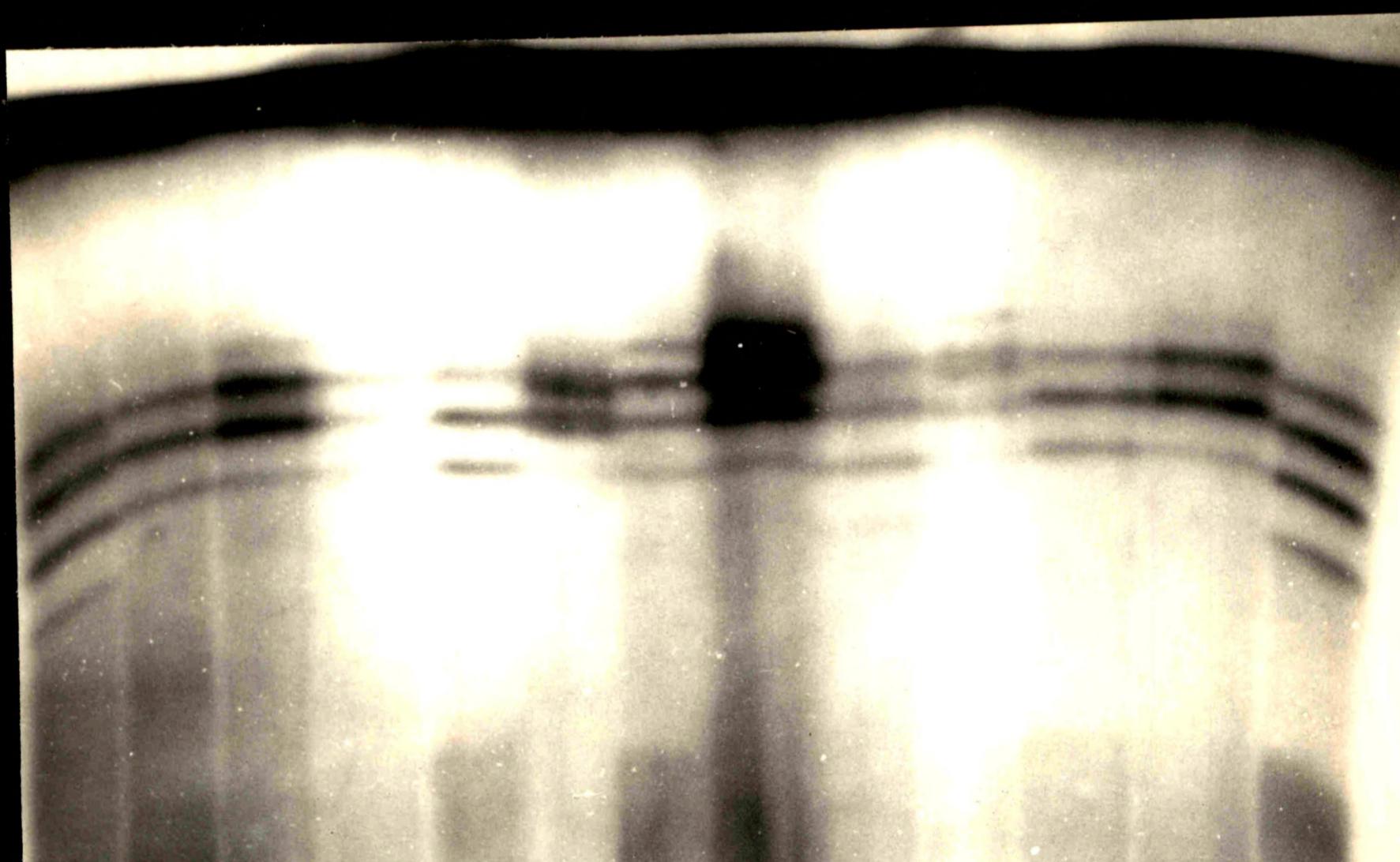


Photograph 4.1.2:

Portion of starch gel showing TfB phenotype referred to TfAE and TfBE in cattle



Photograph 4.1.3 : Portion of the starch gel showing Tf D_1D_1 and Tf D_2D_2 phenotypes.



Photograph 4.1.4: Starch gel showing some rare Tf phenotypes in cattle.

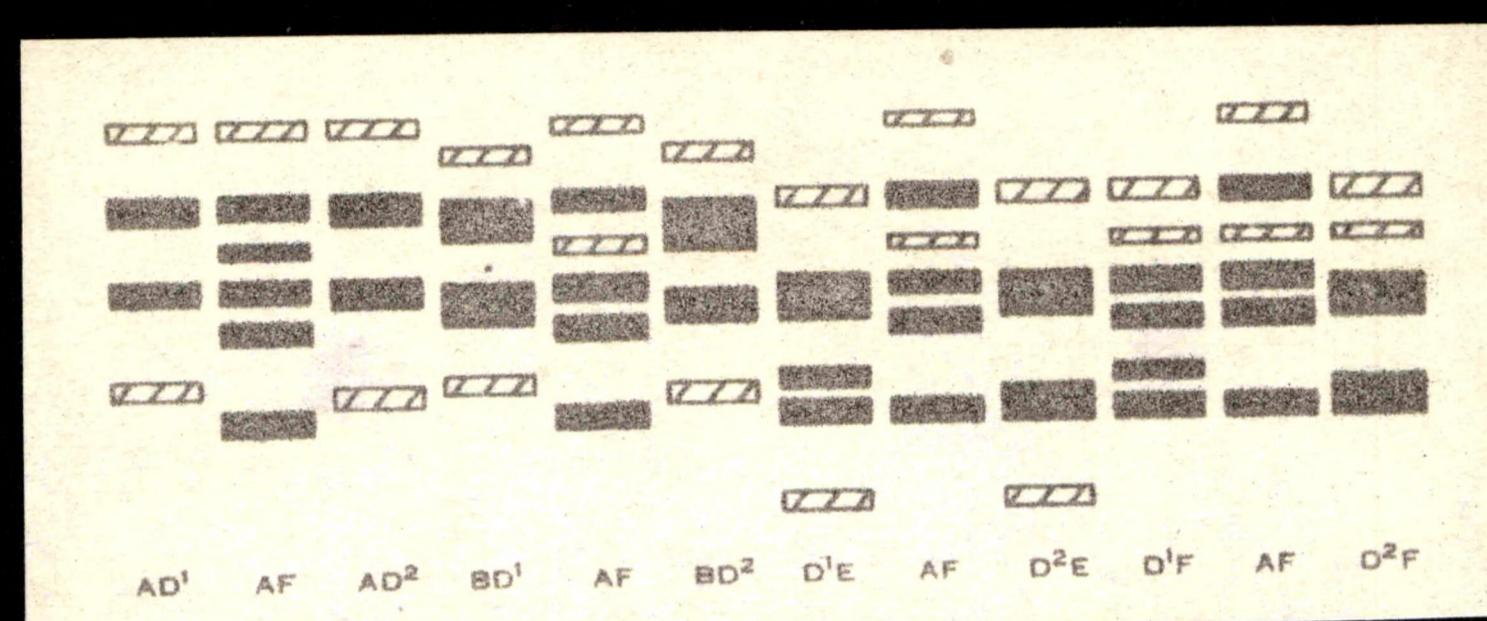


Fig. 4.1.1: Showing pairs of D phenotypes referred to transferrin AF in cattle.

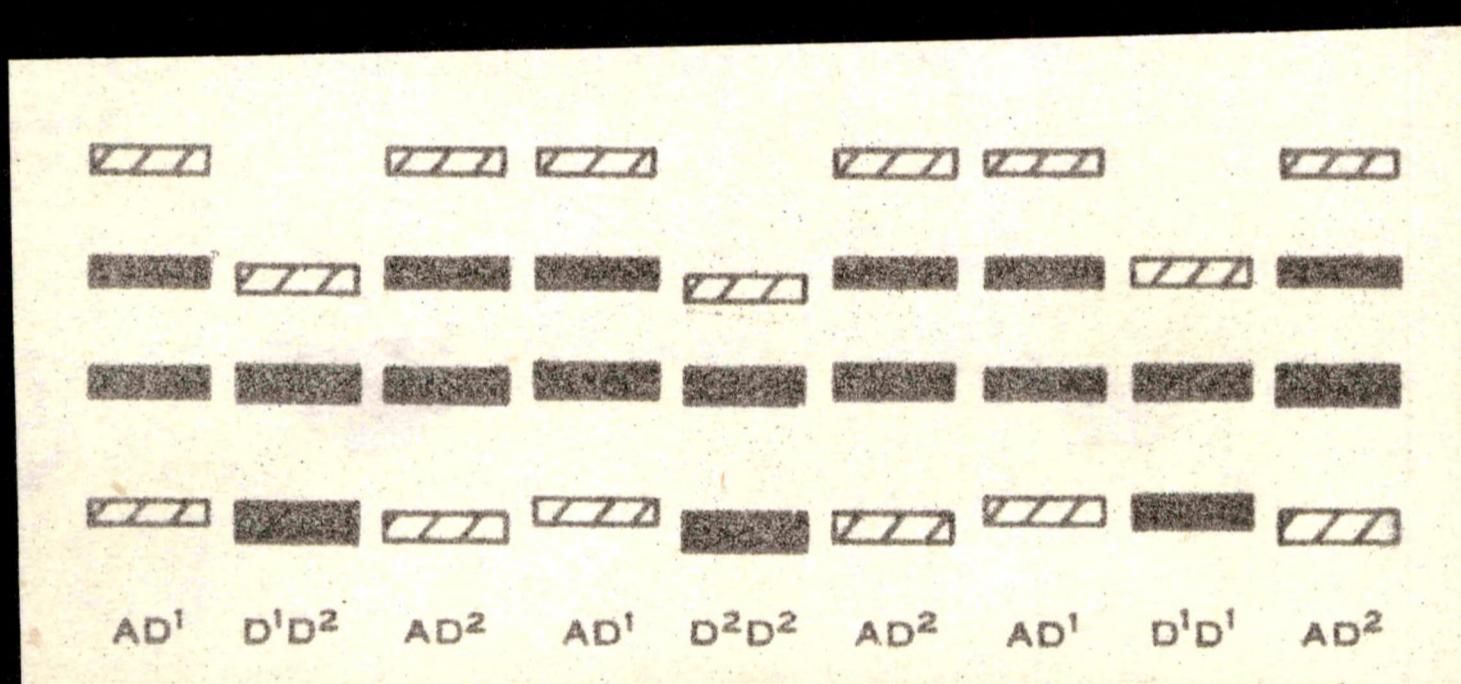
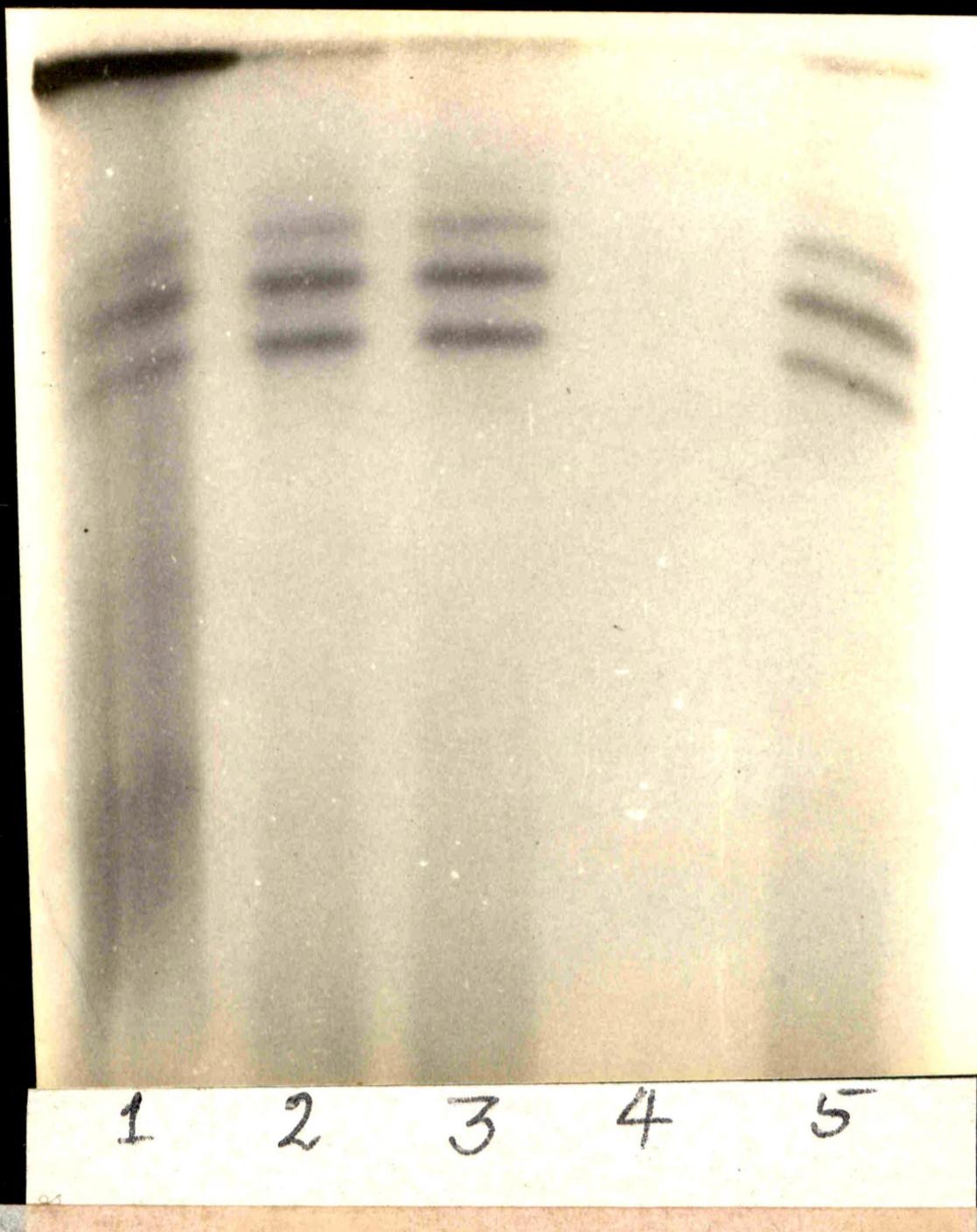


Fig. 4.1.2: Showing D phenotypes referred to transferrin D₁D₁, D₁D₂ and D₂D₂ phenotypes in cattle.

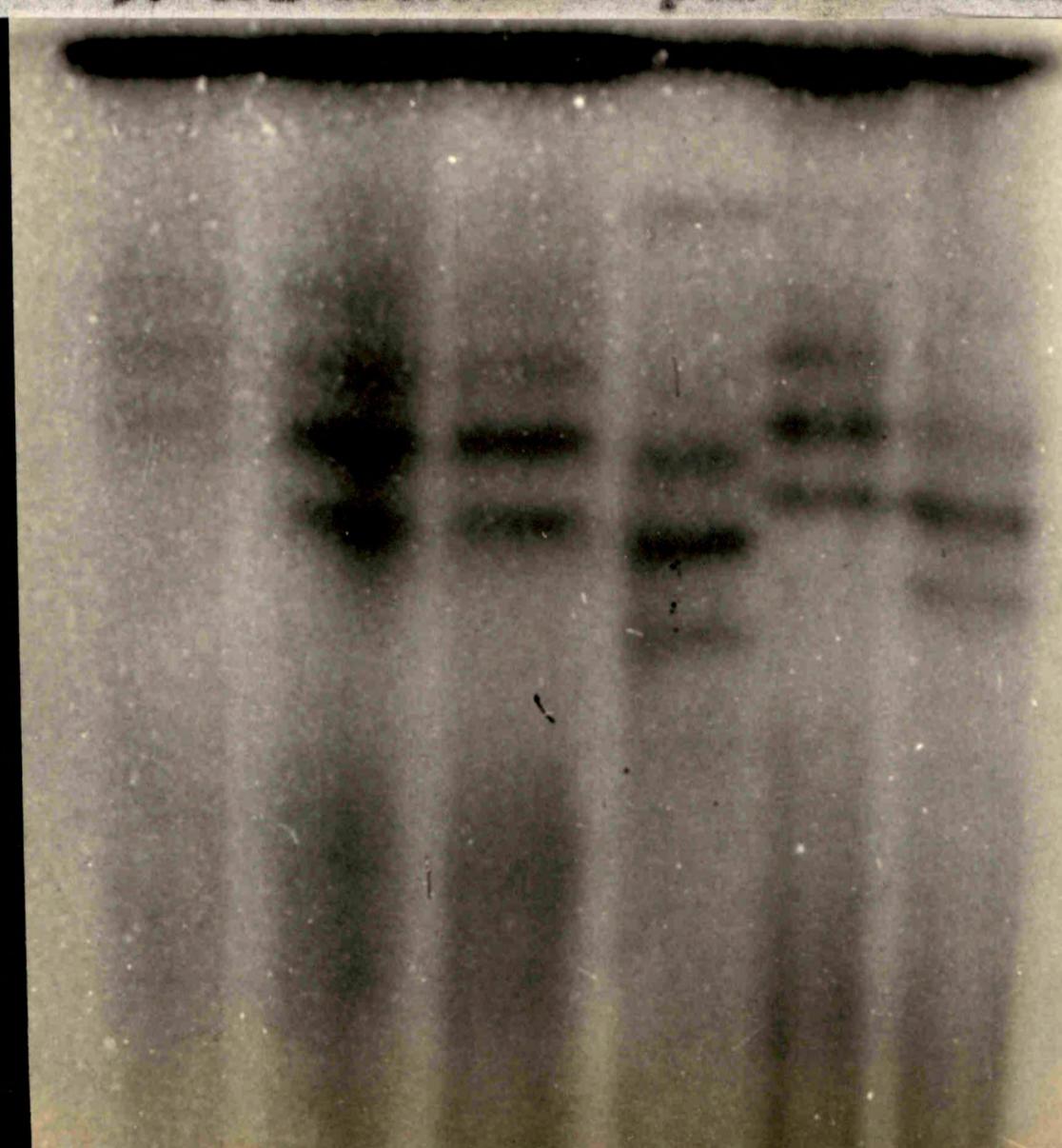


Photograph 4.2.1.1: Starch gel showing the different stages of isolation of bovine serum transferrin.

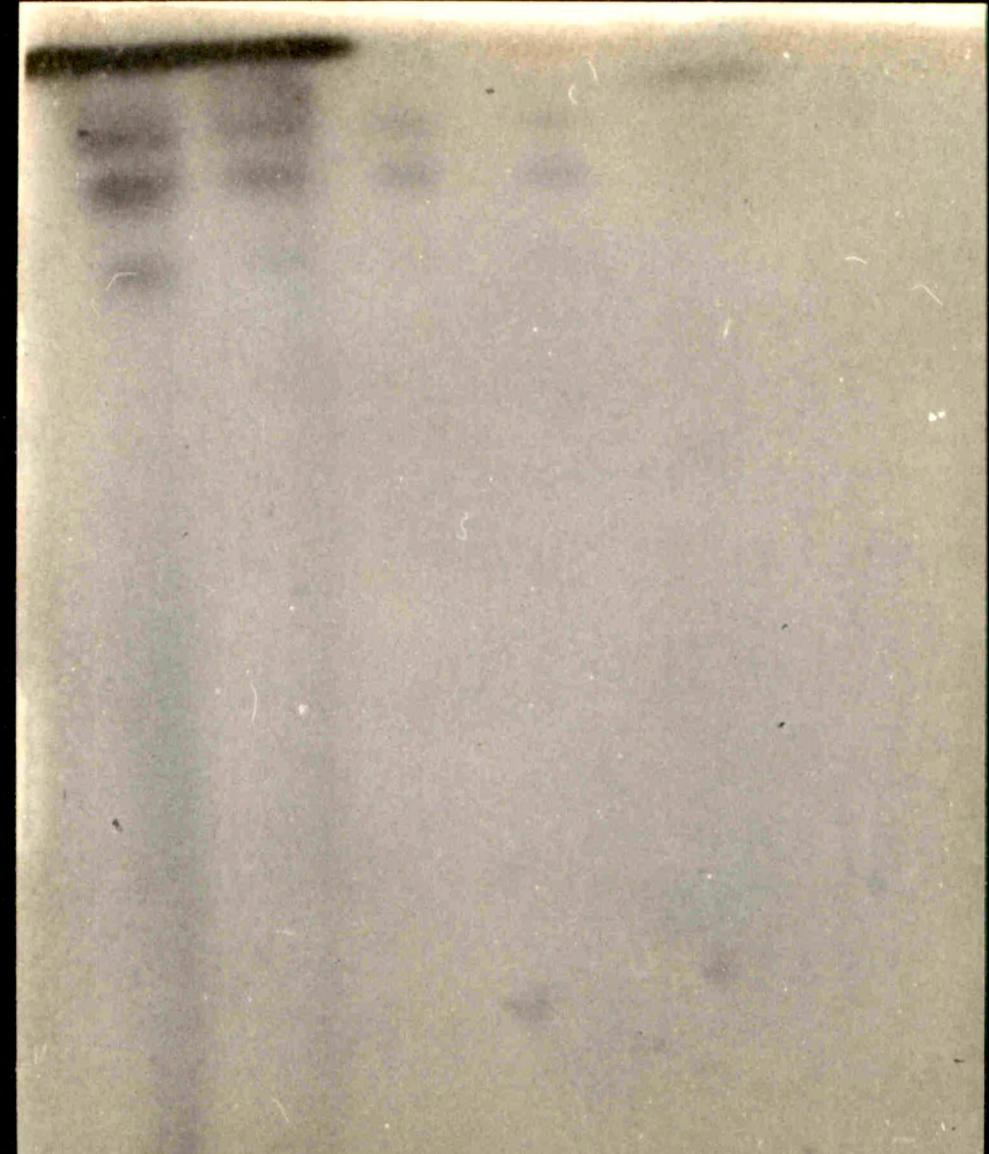
1. Whole serum 2. Supernatant from rivanol

3. Filtrate from starch 4. Filtrate from DEAE Sephadex A-50.

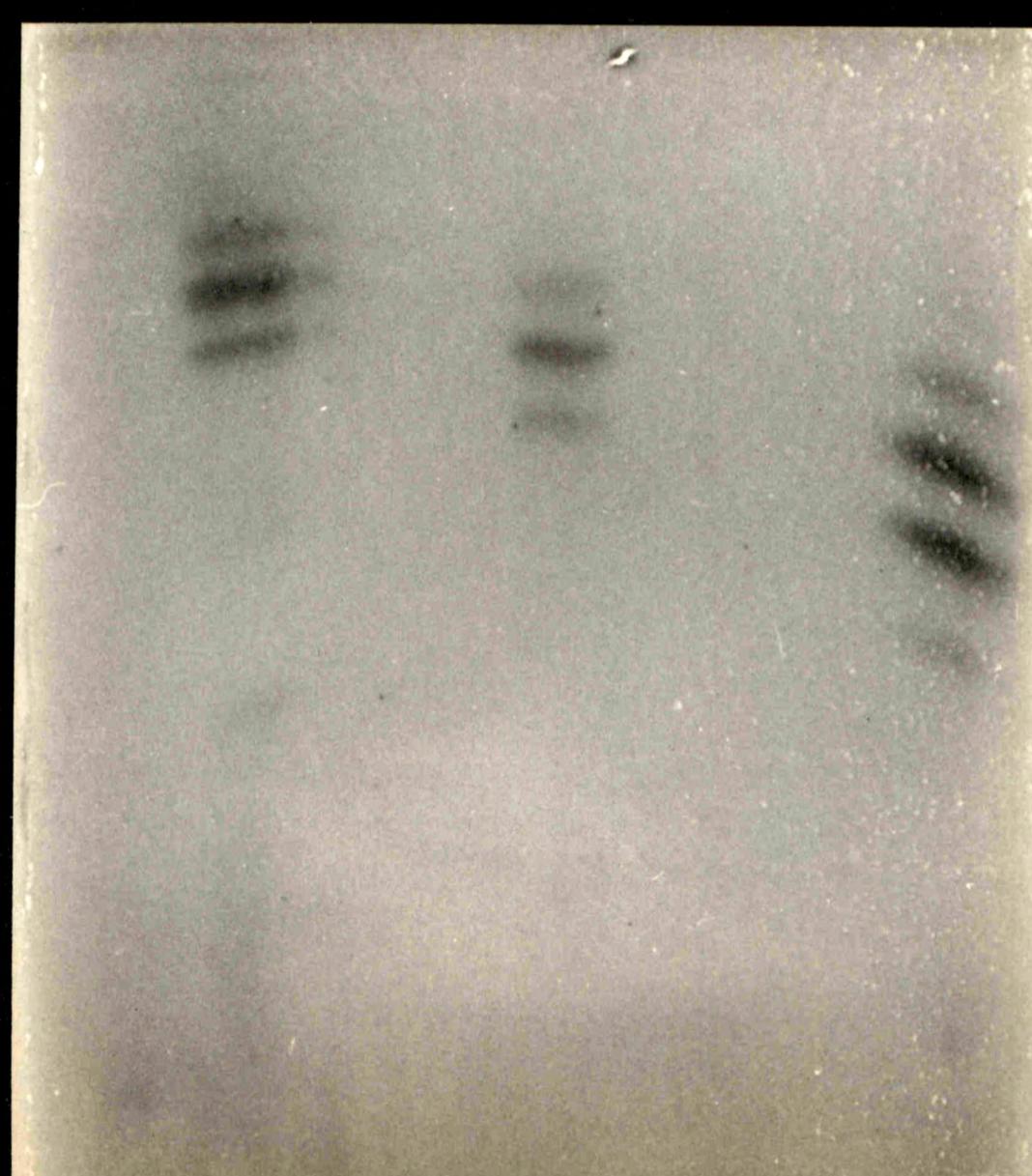
5. Transferrin in peak from DEAE Sephadex A-50



Photograph 4.2.1.2: Starch gel showing the partially purified transferrin types of cattle and buffaloes.

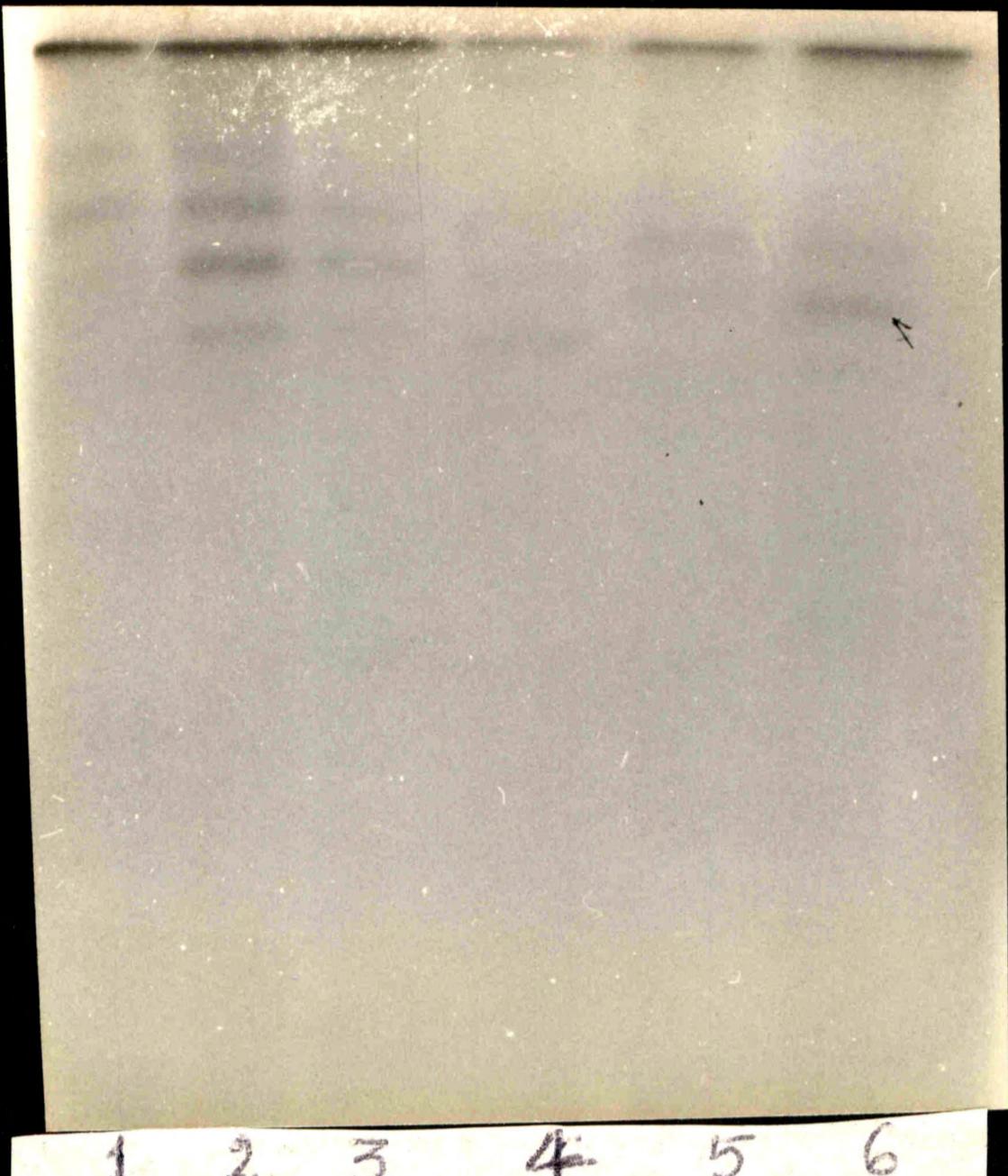


Photograph 4.2.1.3: Starch gel showing the presence of transferrin in precipitate obtained from addition of rivanol (sample 2)
1. whole serum 2. precipitate from rivanol 3. Supernatant from rivanol 4. Filtrate from starch 5. Transferrin in peak from DEAE Sephadex A-50 6. Filtrate from DEAE Sephadex A-50.

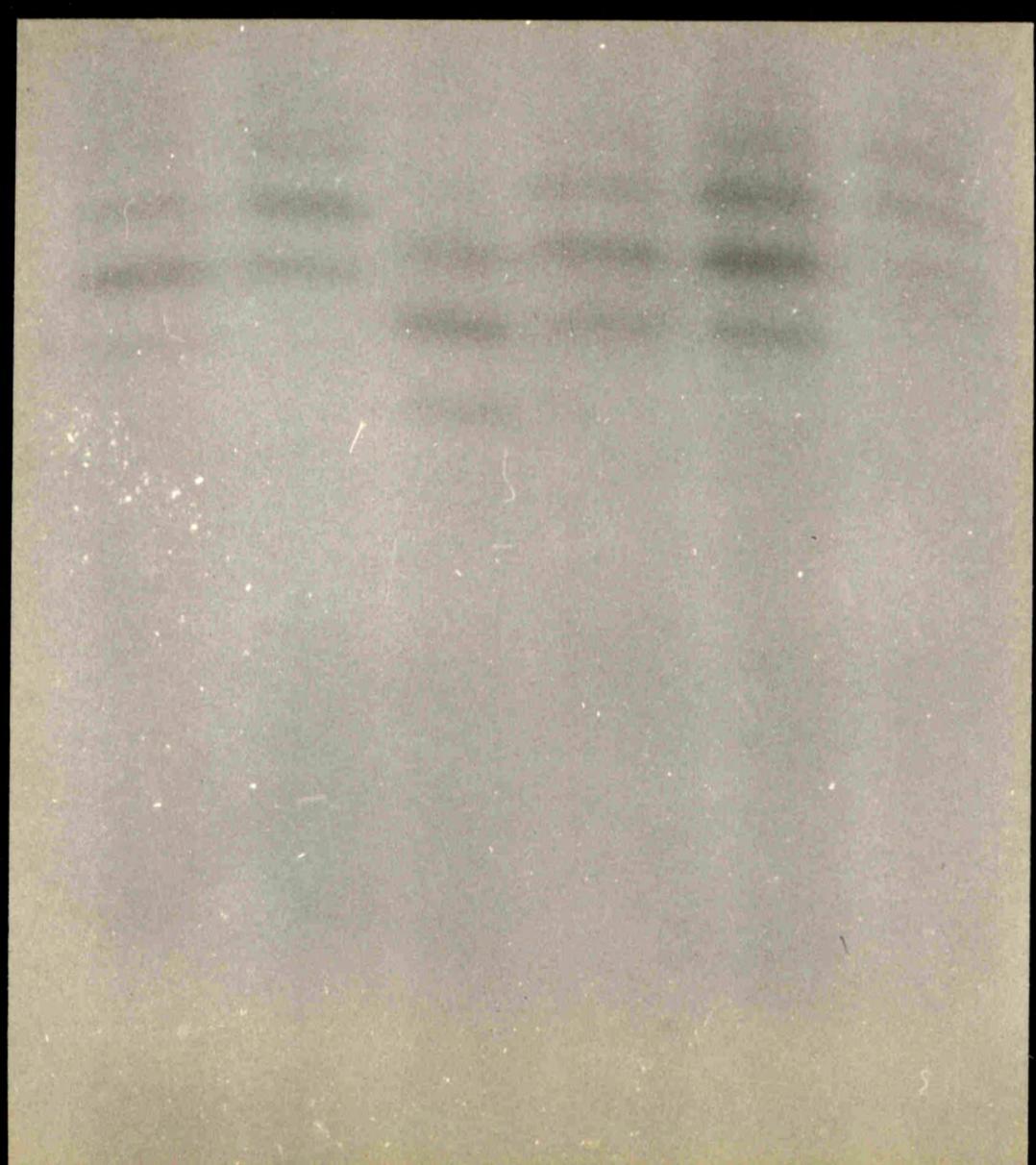


Photograph 4.2.2.1: Starch gel showing the absence of transferrin in the 1st peaks of TfAA and TFD₁₁ (sample No. 1st and 3rd) respectively and 1st and 3rd peaks of TfEE (samples 5th & 6th) of cattle.

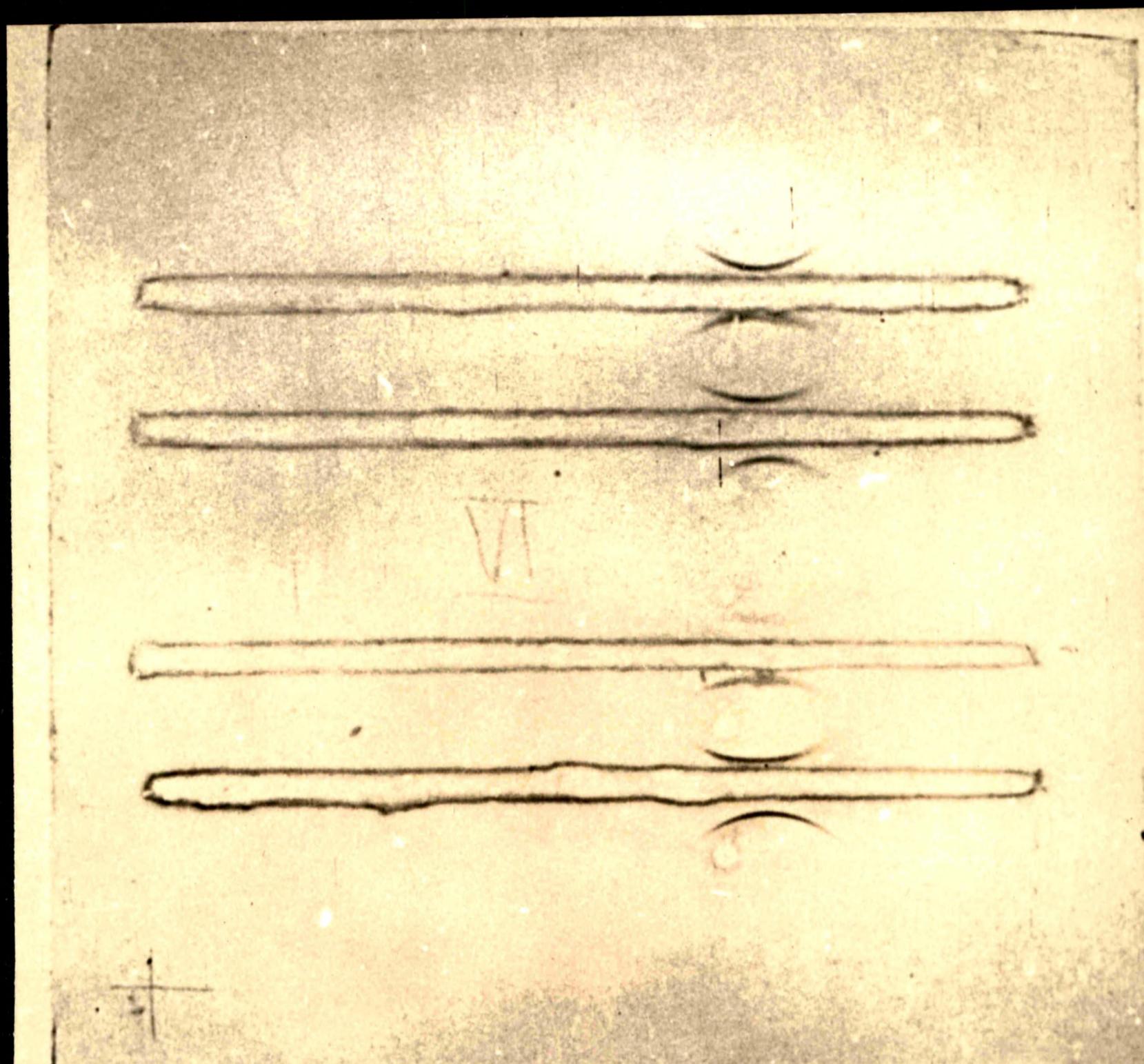
1. 1st peak TfAA 2. 2nd peak TfAA 3. 1st peak TFD₁₁ 4. 2nd peak TFD₁₁
5. 1st peak TfEE 6. 2nd peak TfEE 7. 3rd peak TfEE.



Photograph 4.2.3.1: Starch gel showing the partially purified transferrin types of cattle and buffaloes



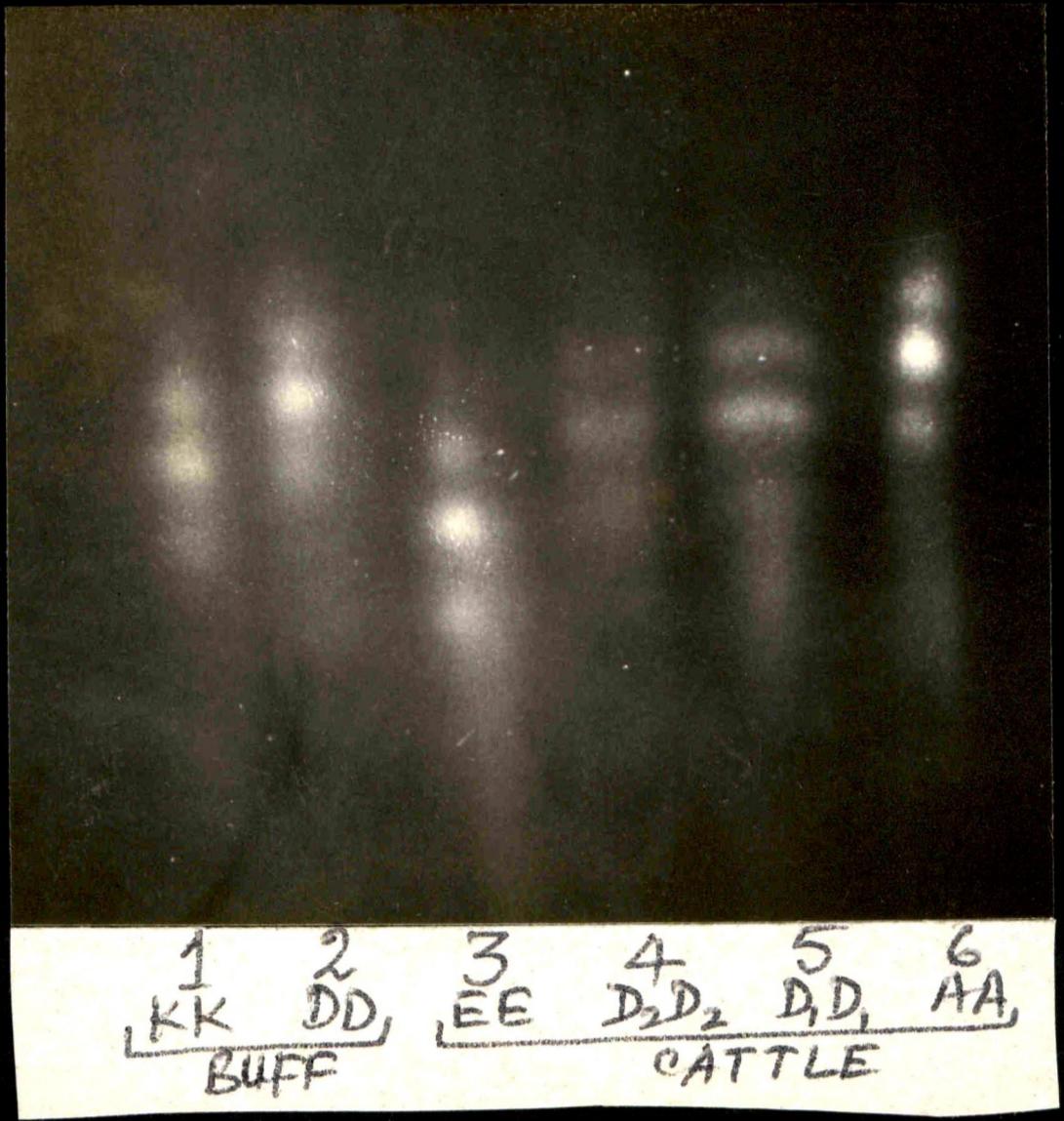
Photograph 4.2.3.2: Starch gel showing the purified bovine transferrins.



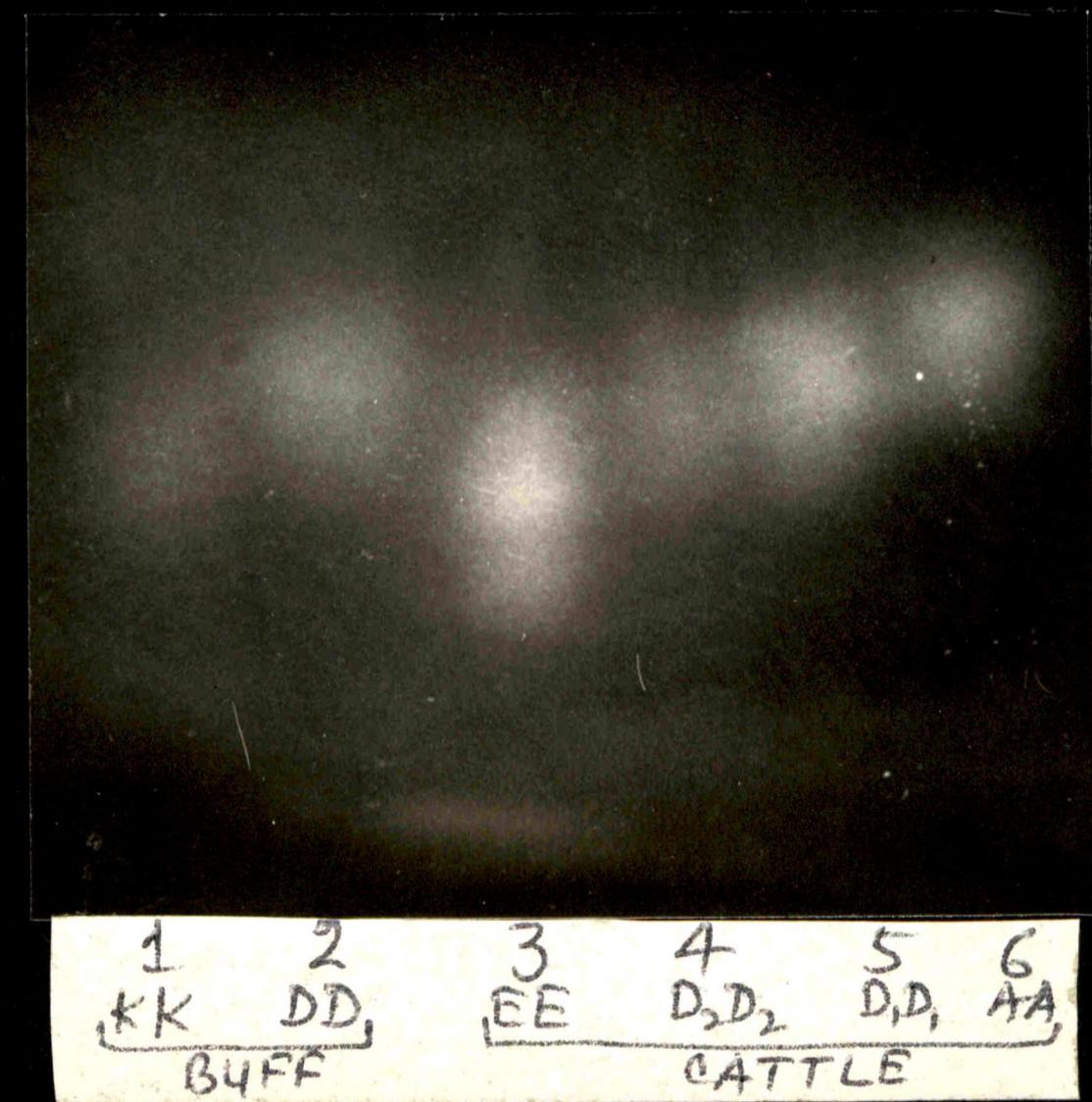
Photograph 4.2.3.3: Immunoelectrophoresis showing the single arc at 6 mg/ml concentration of various bovine transferrins.

Antigen wells 1. TFAA 2. Tf_{D₁}^{D₁} 3. Tf_{D₂}^{D₂} 4. TfEE 5. TfDD (Buff)
6. TfKK (Buff)

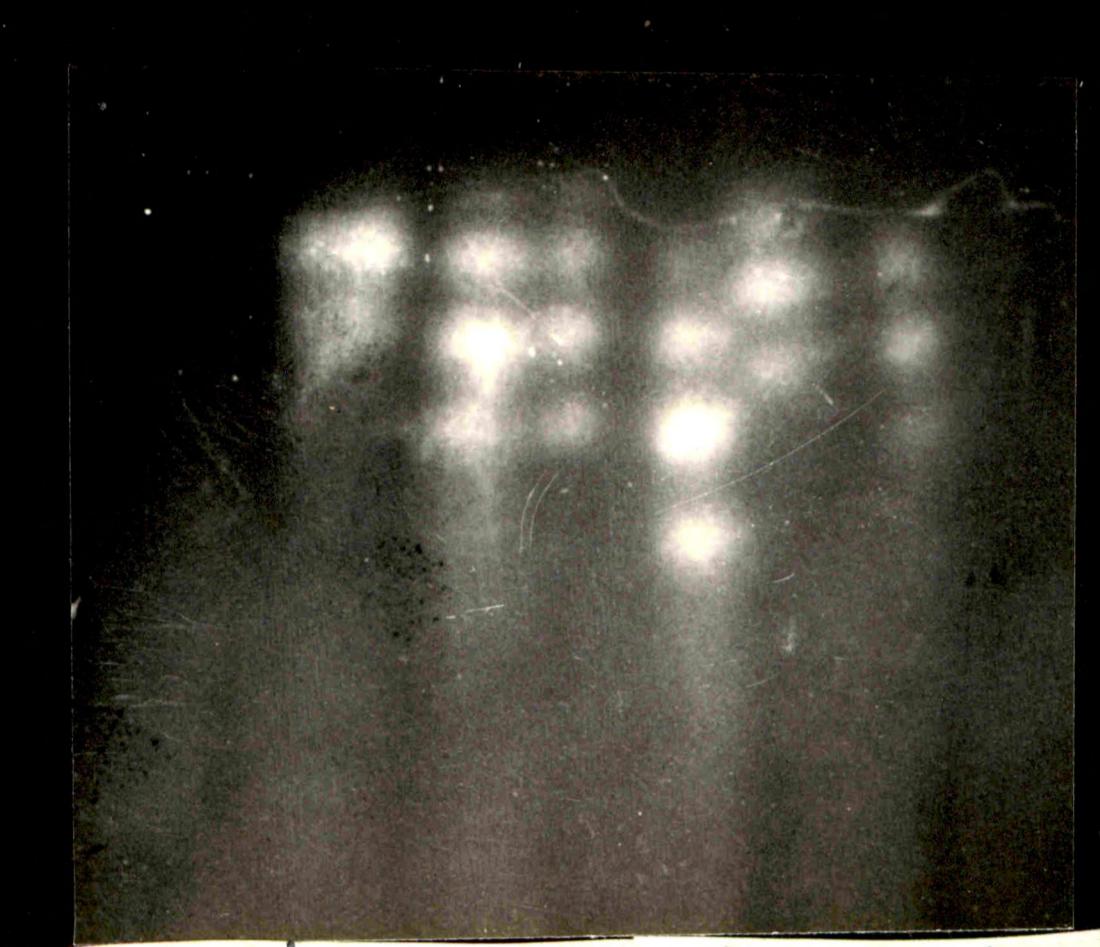
Antibodies Troughs a, b and c contained anti-pooled transferrin sera.
d. anti-pooled buffalo transferrin.



Autoradiograph 4.3.5.1: Showing standard transferrin phenotypes of cattle and buffaloes.



Autoradiograph 4.3.5.2: Showing zones of transferrin of cattle and buffaloes with their respective mobility.

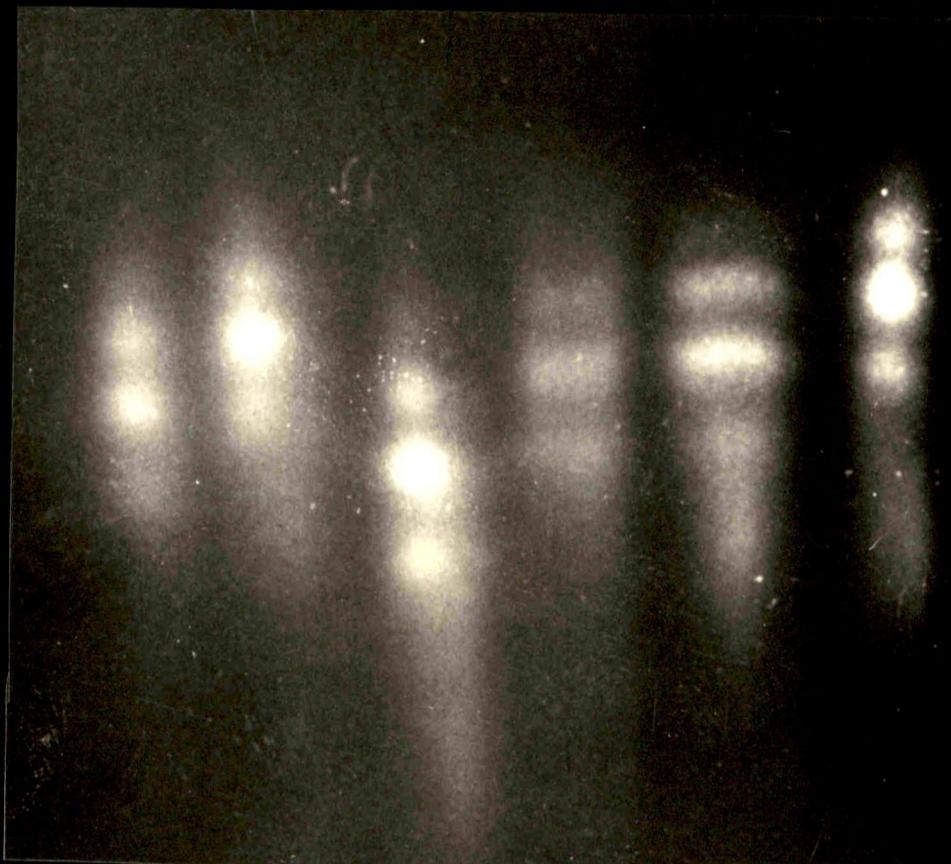


Autoradiograph 4.3.5.3: Showing standard transferrin phenotypes of cattle and buffaloes with double amount of Fe⁵⁹ in sample.

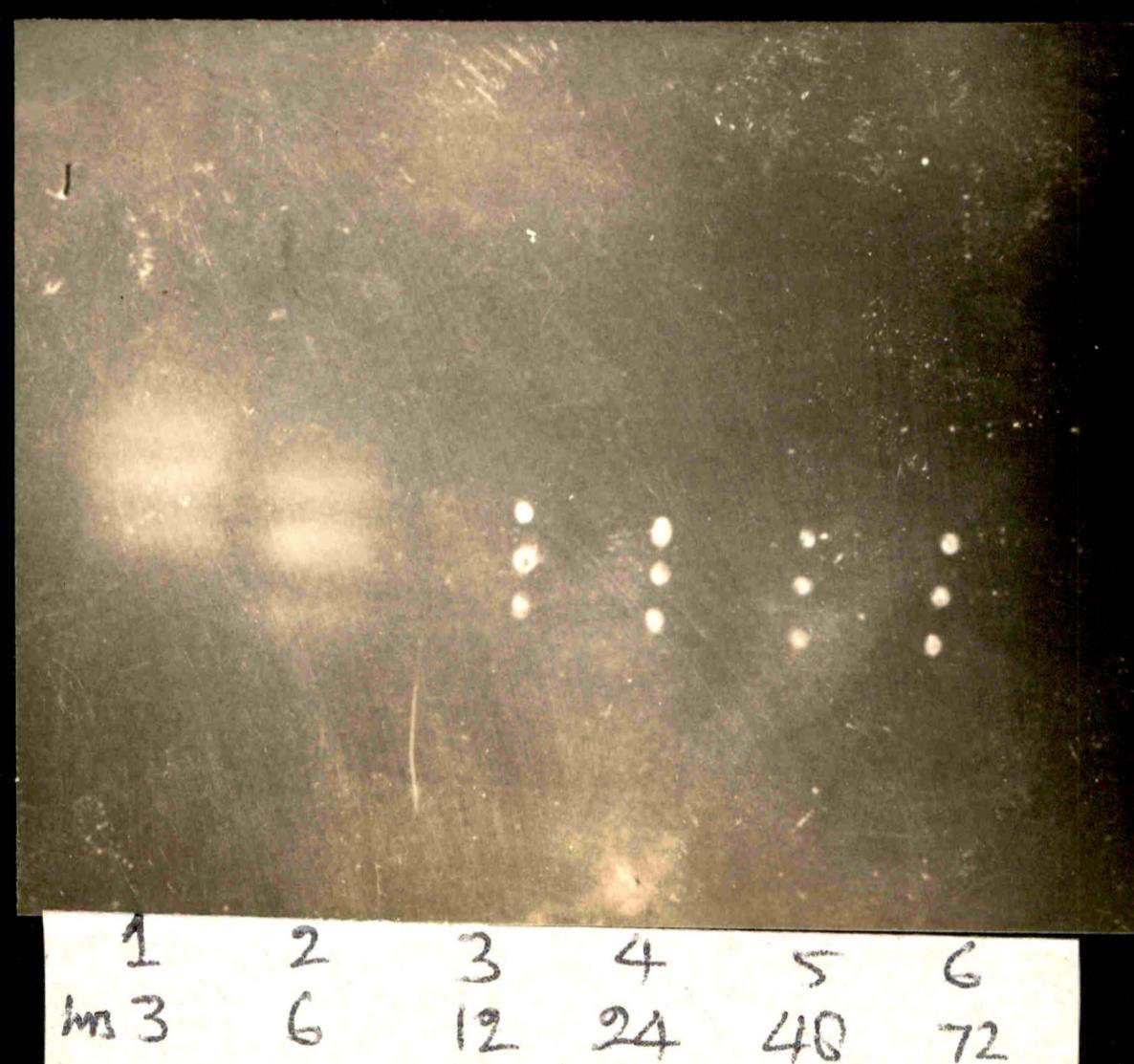


Autoradiograph 4.3.5.4: Showing presence of transferrin in different stages of isolation from serum.

1. whole
2. supernatant from rivanol
3. Filtrate from starch.
4. Transferrin peak from DEAE Sephadex A-50
5. Filtrate from DEAE Sephadex A-50.

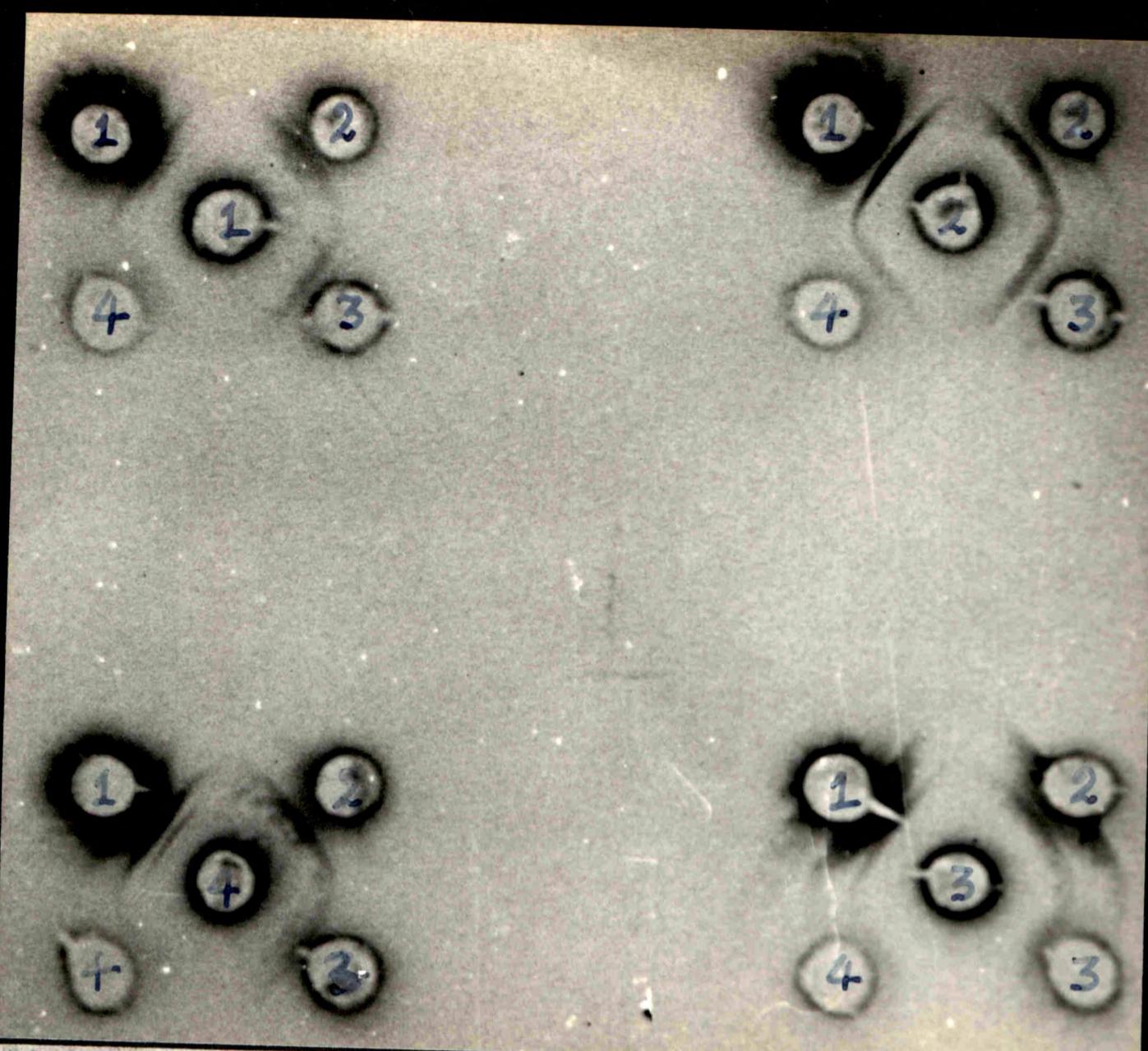


Autoradiograph 4.3.5.5: Showing purified transferrin types.



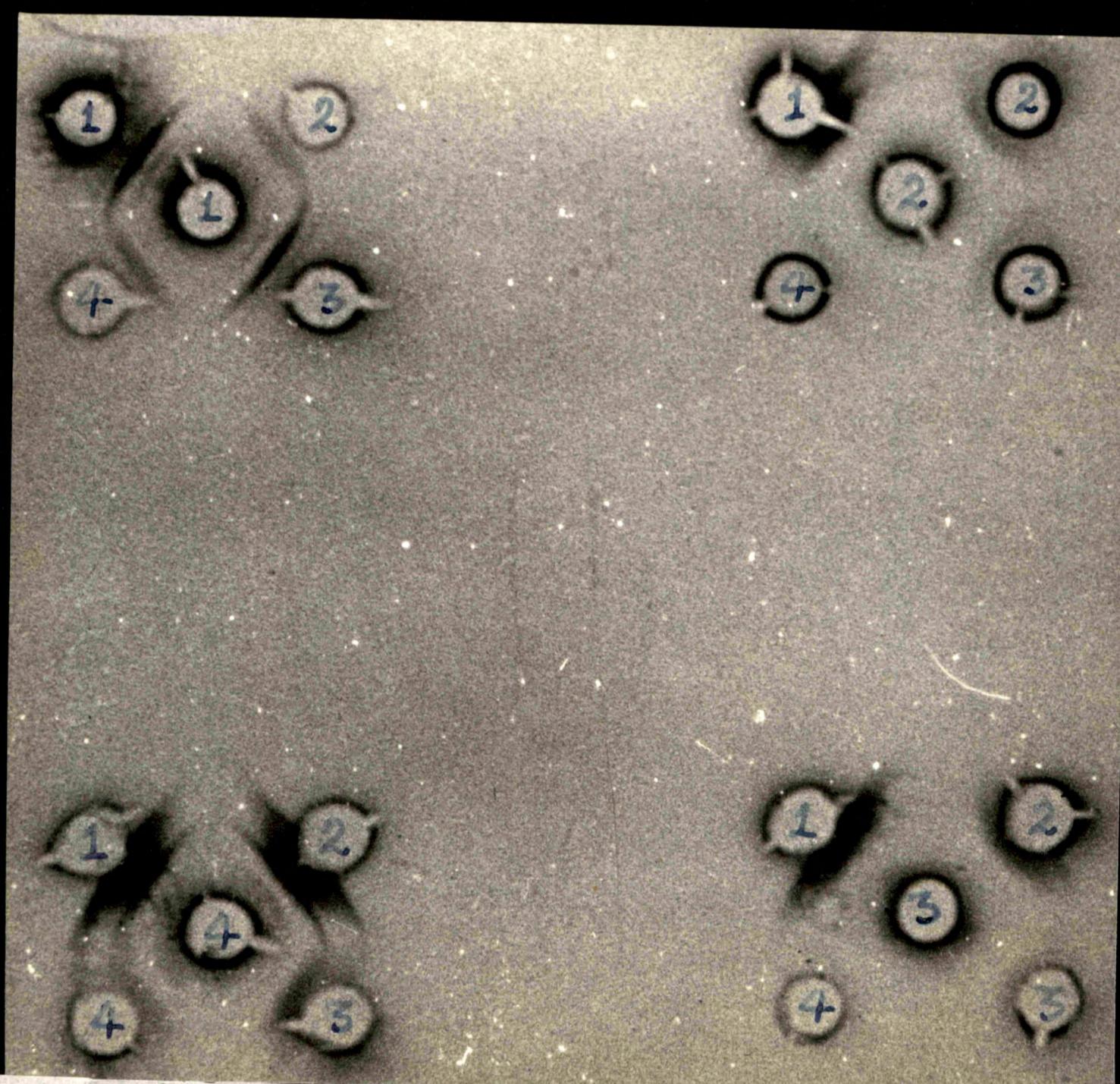
1	2	3	4	5	6
hr 3	6	12	24	48	72

Autoradiograph 4.3.6.1: Showing the effect of neuraminidase on the cattle transferrin AA type for different periods of incubation.



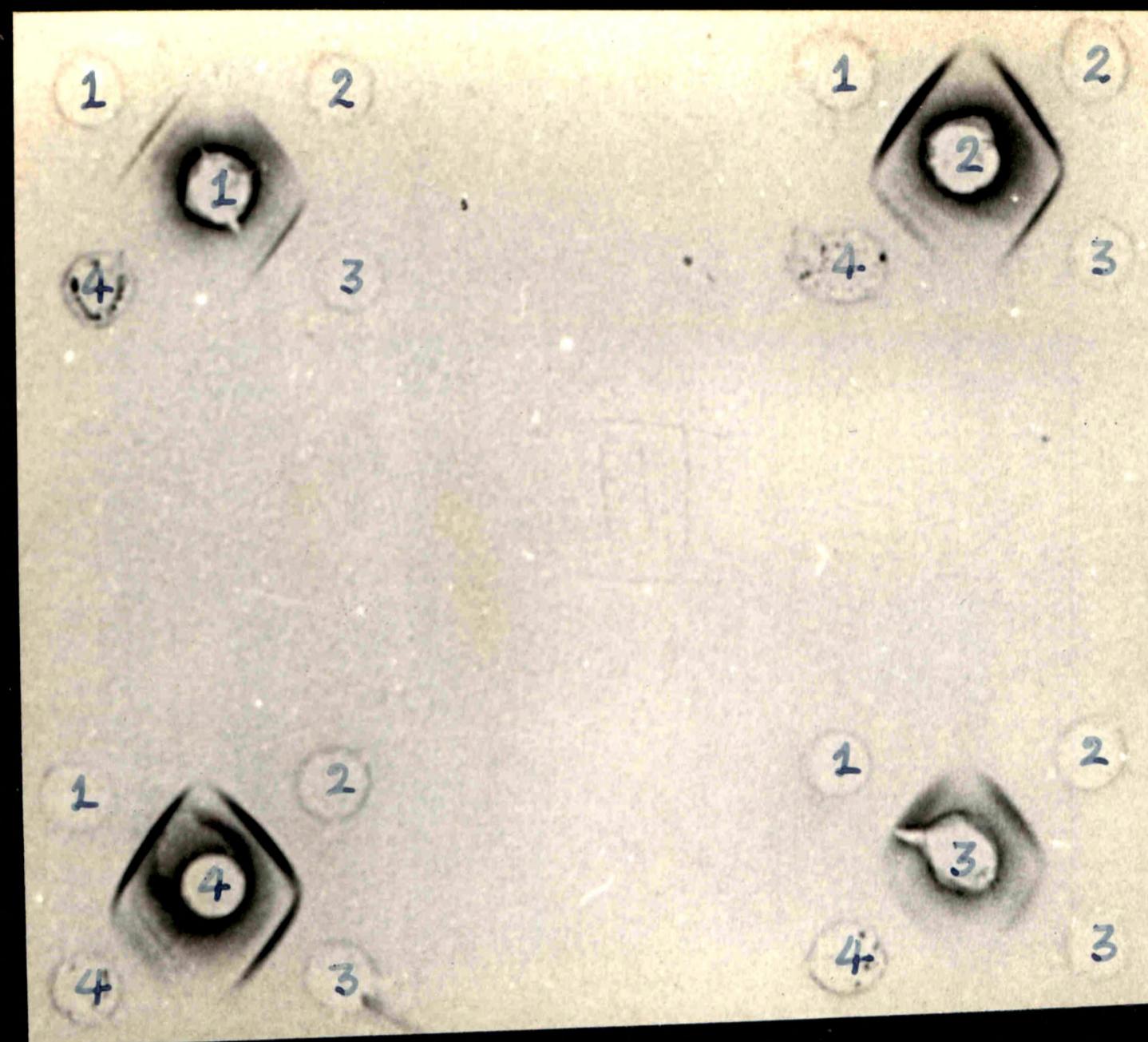
Photograph 4.4.1.1: Showing the immunodiffusion for the titre of anticattle sera and anticattle transferrin sera till 1/8th dilution.

Set 1 and set 4: Antipooled cattle serum (Rabbit No. 88). Set 2: Antipooled transferrin serum (Rabbit No. 104). Set 3: Antipooled transferrin serum (Rabbit No. 232). All the sets: Centre well Pooled cattle serum Well 1 1/1 dilution. Well 2 $\frac{1}{2}$ dilution Well 3 $\frac{1}{4}$ dilution Well 4 1/8 dilution.



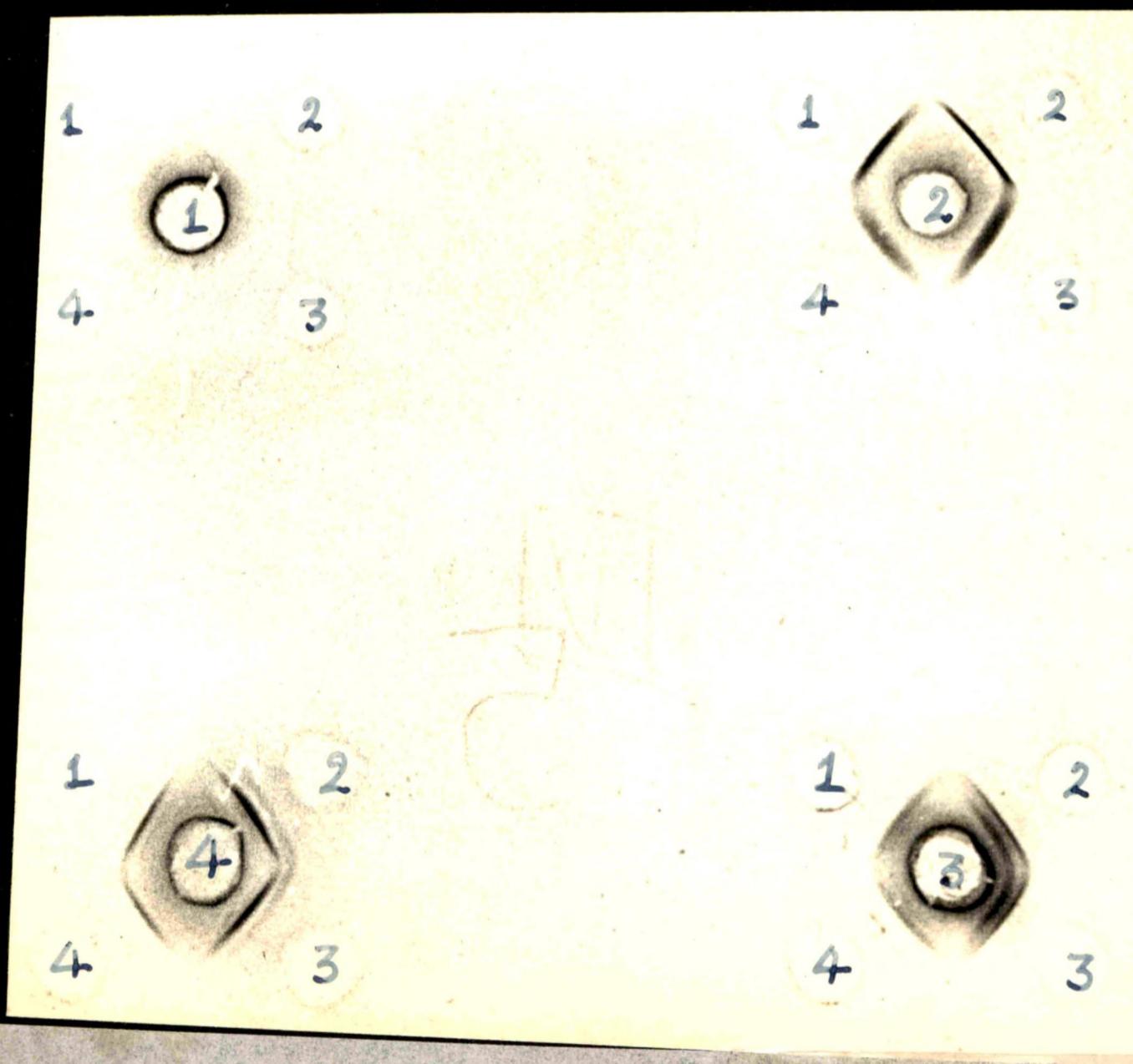
Photograph 4.4.1.2: Showing the immunodiffusion for the titre of antibuffalo sera and antibuffalo transferrin sera till 1/8th dilution.

Set 1: Antipooled buffalo serum (Rabbit No. 252). Set 4: Antipooled buffalo serum (Rabbit No. 203). Set 2: Antipooled buffalo transferrin serum (Rabbit No. 116). Set 3: Antipooled buffalo transferrin serum (Rabbit No. 235). All the sets: Centre well Pooled buffalo serum Well 1 1/1 dilution Well 2 $\frac{1}{2}$ dilution Well 3 $\frac{1}{4}$ dilution Well 4 1/8 dilution.



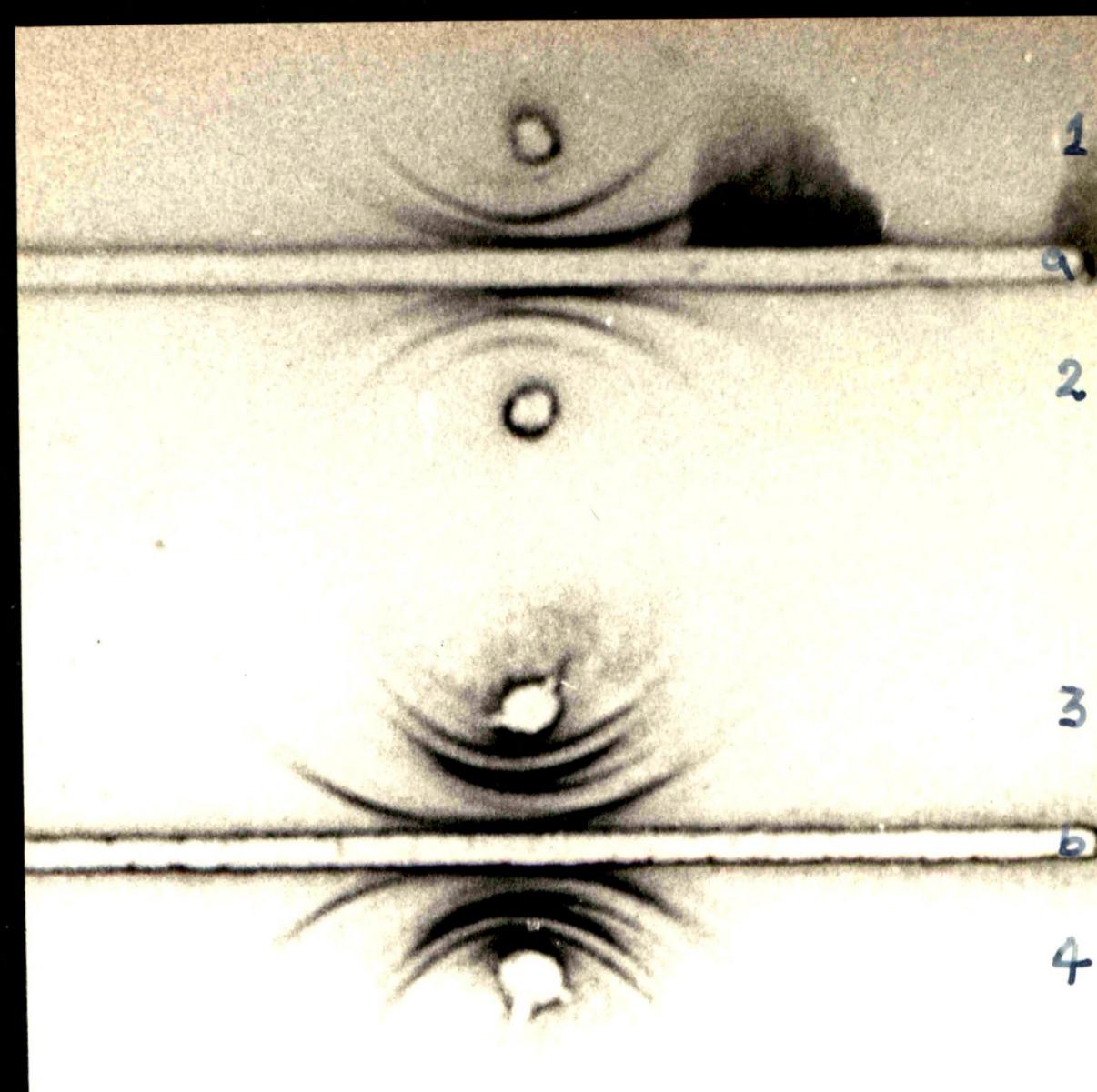
Photograph 4.4.2.1: Showing the Immunodiffusion of the partially purified cattle transferrins against antipooled cattle sera and antipooled cattle transferrin sera.

Set 1: Antipooled cattle sera (Rabbit No. 88). Set 2: Antipooled cattle transferrin sera (Rabbit No. 104). Set 3: Antipooled buffalo transferrin sera (Rabbit No. 116). Set 4: Antipooled buffalo transferrin sera (Rabbit No. 235). All the sets Well 1 and 4 - TfDD (Buff) Well 2 and 3 - TfKK(Buff).



Photograph 4.4.2.2: Showing the Immunodiffusion of the partially purified buffalo transferrins against antipooled buffalo sera and antipooled buffalo transferrin sera.

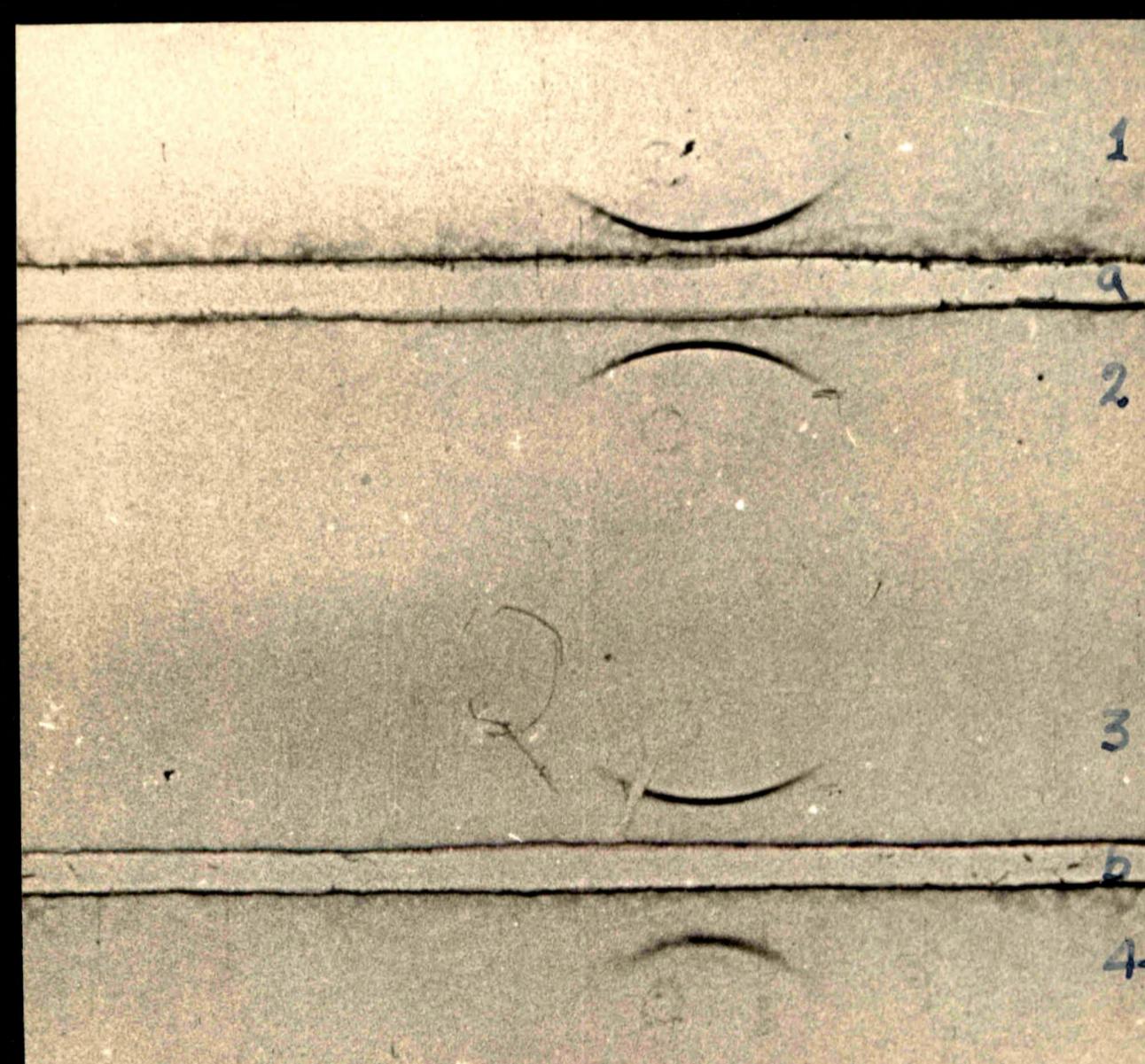
Set 1 - Antipooled buffalo Serum (rabbit-No 252) Set 2 - Antipooled buffalo Serum (rabbit-No. 203) Set 3 - Antipooled buffalo Transferrin Serum (rabbit-No. 116) Set 4 - Antipooled buffalo Transferrin Serum (rabbit-No. 235)
All the Sets Well 1 and 4 - TfDD (buff) Well 2 and 3 - TfKK (buff)



Photograph 4.4.3.1: Showing the immunoelectrophoresis of pooled cattle sera against antipooled cattle sera and pooled buffalo sera against antipooled buffalo sera.

Antigen wells 1 & 2 Pooled cattle sera 3 & 4 Pooled buffalo sera

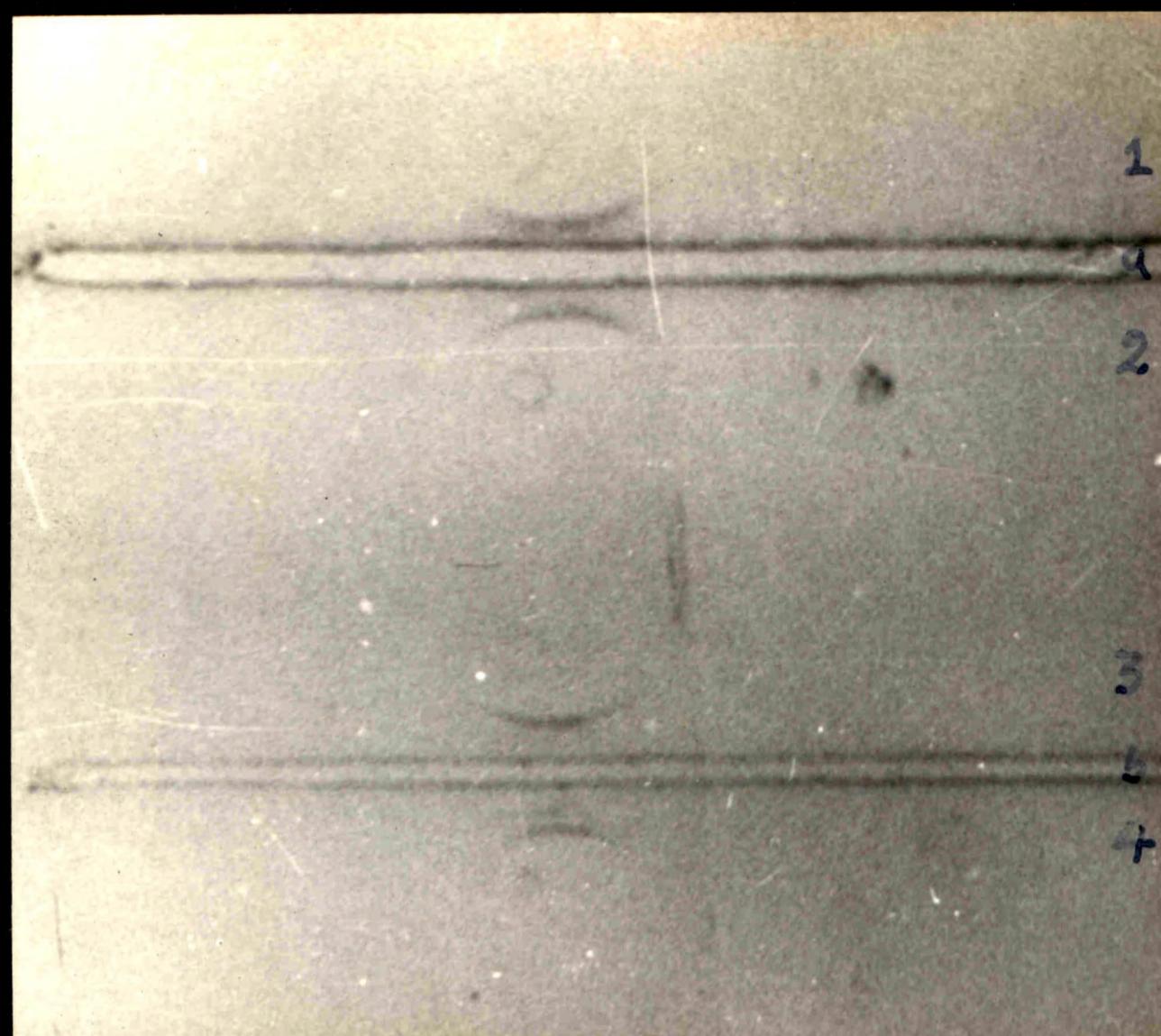
Antibodies troughs a. Antipooled cattle sera b. Antipooled buffalo sera.



Photograph 4.4.3.2: Showing the immunoelectrophoresis for the purity of cattle transferrins against antipooled cattle transferrin sera.

Antigen wells 1. TfAA 2. TfD₁D₁ 3. TfD₂D₂ 4. TfEE

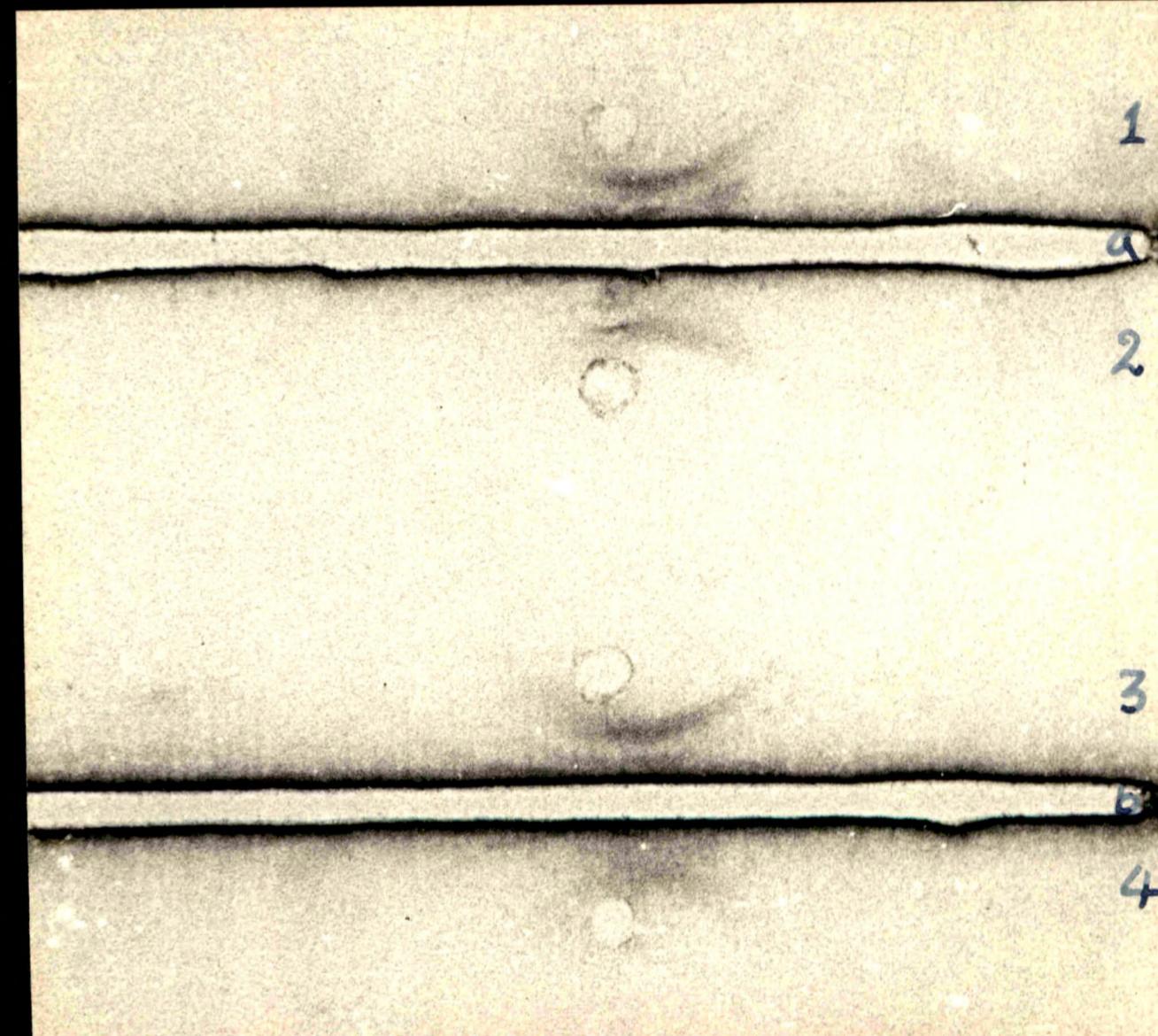
Antibodies Troughs Antipooled cattle transferrin sera.



Photograph 4.4.3.3: Showing the immunolectrophoresis for the purity of cattle transferrins against antipooled cattle sera.

Antigen wells 1. TPA 2. TfD₁₁ 3. TfD₂₂ 4. TfLL

Antibodies Troughs Antipooled cattle sera.

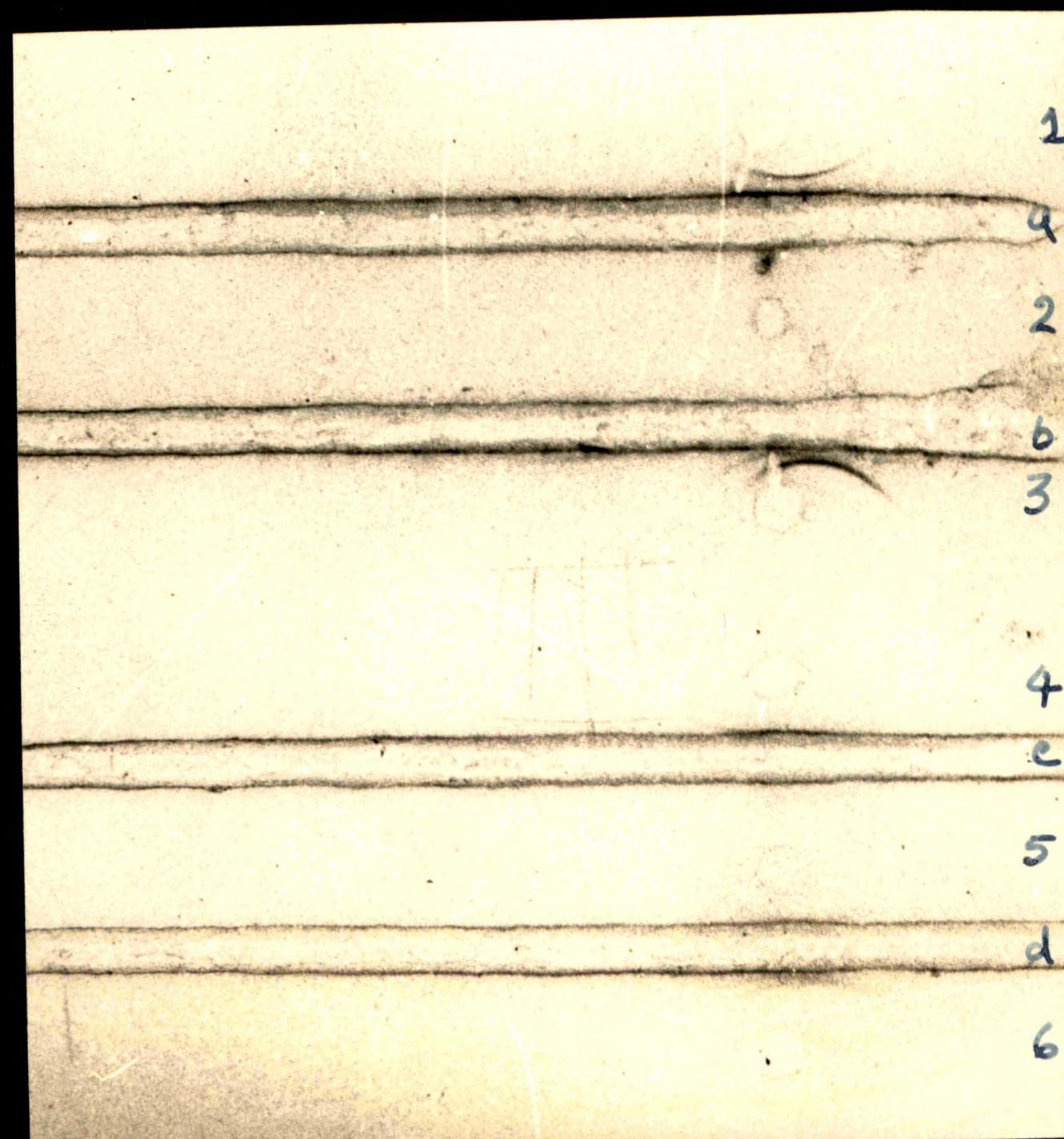


Photograph 4.4.3.4: Showing the immunolectrophoresis for the purified cattle transferrins (pooled) against antipooled cattle sera and purified buffalo transferrins (pooled) against antipooled buffalo sera.

Antigen wells 1 & 2 Purified cattle transferrins (pooled)

3 & 4 Purified buffalo transferrins (pooled)

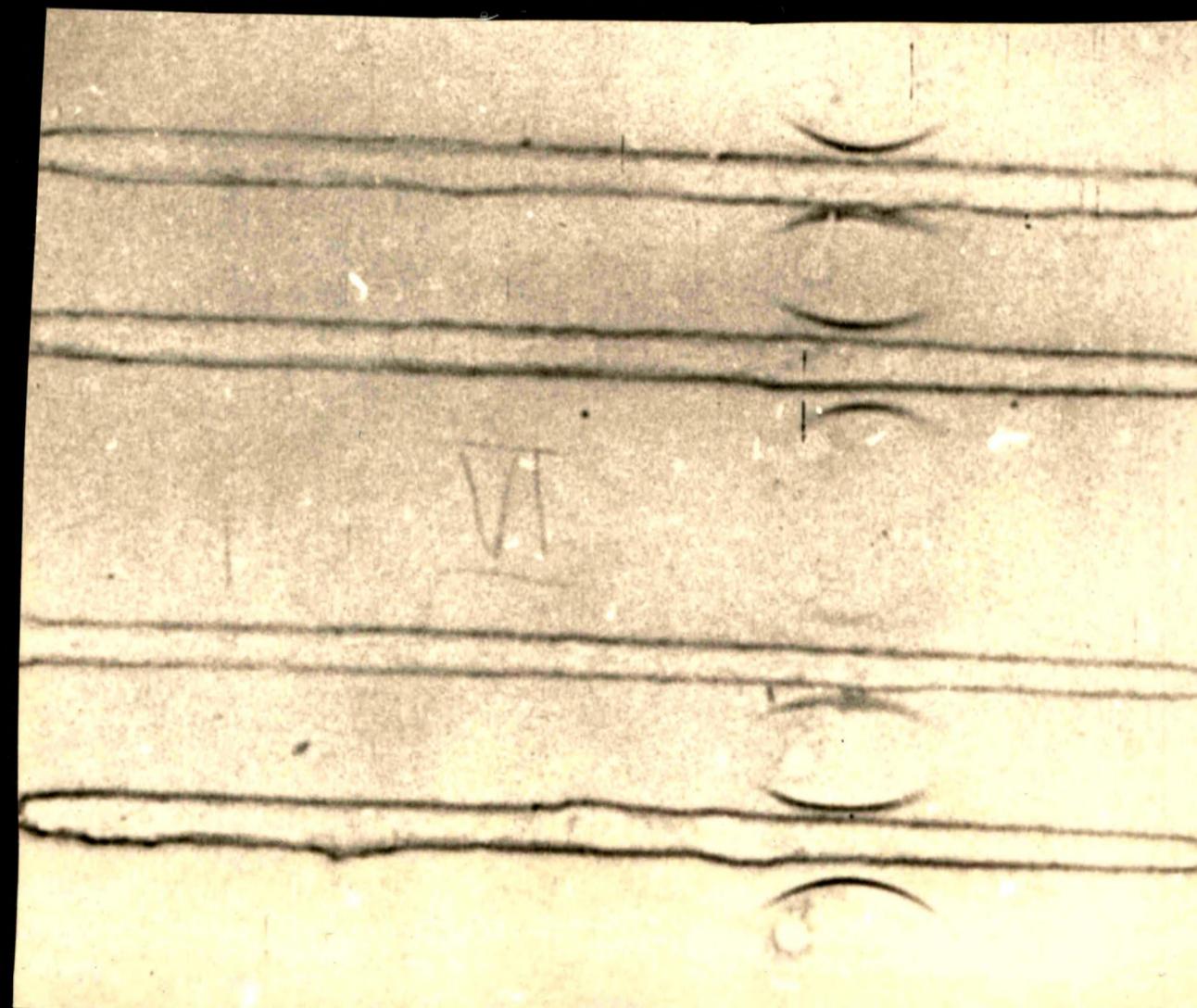
Antibodies Troughs a. Antipooled cattle sera. b. Antipooled buffalo sera.



Photograph 4.4.3.5: Showing the immunoelectrophoresis of purified cattle and buffalo transferrins against antipooled cattle sera.

Antigen wells 1. TfAA 2. TFD₁₁D₁₁ 3. TFD₂₂D₂₂ 4. TFEE 5. TFDD(Buff)
6. TfKK(Buff)

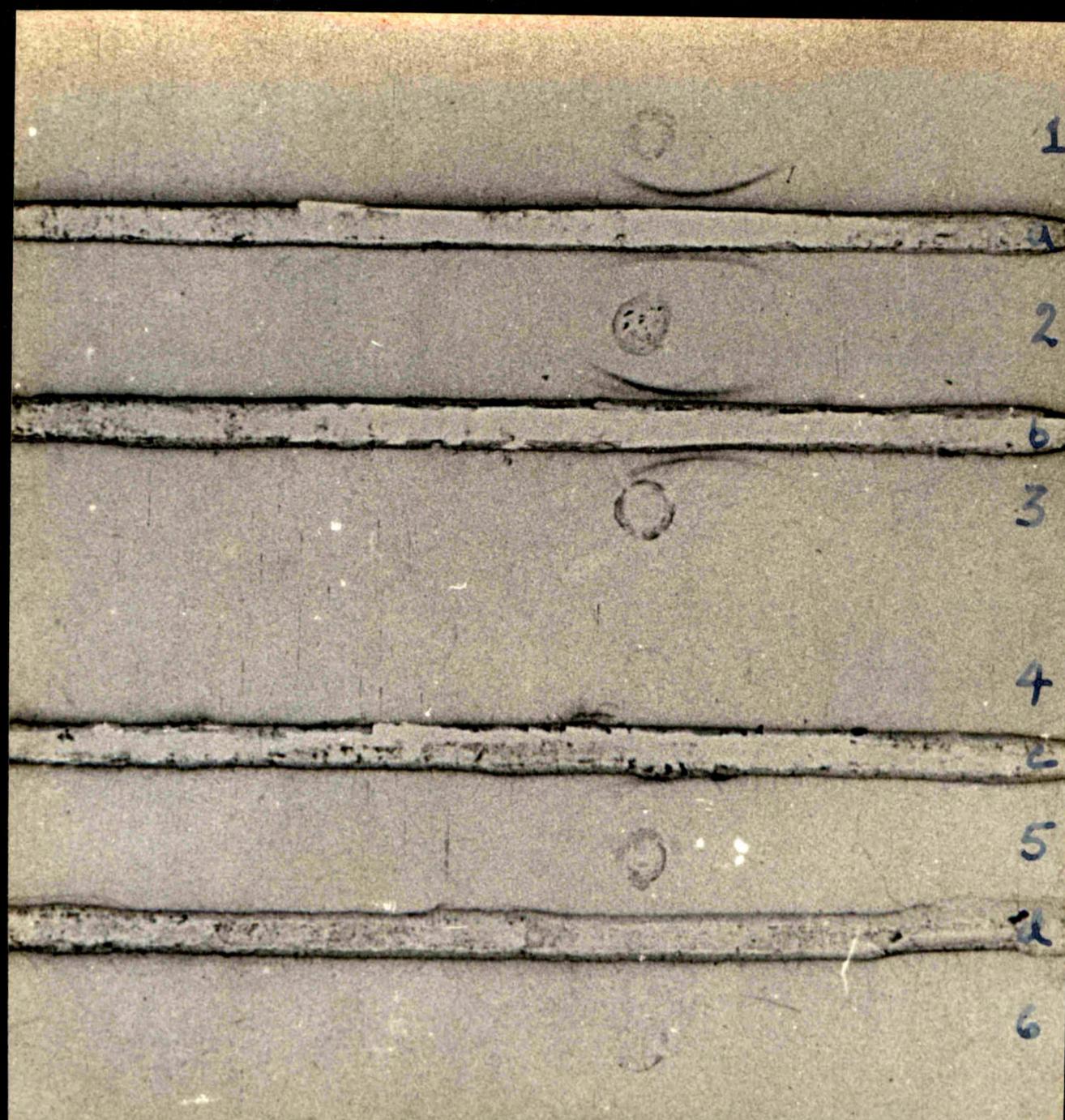
Antibodies Troughs a,b,c,d. Antipooled cattle sera.



Photograph 4.4.3.6: showing the immunoelectrophoresis of purified cattle and buffalo transferrins against antipooled cattle transferrin sera.

Antigen wells 1. TfAA 2. TFD₁₁D₁₁ 3. TFD₂₂D₂₂ 4. TFEE 5.TFDD(Buff) 6.TfKK(Buff)

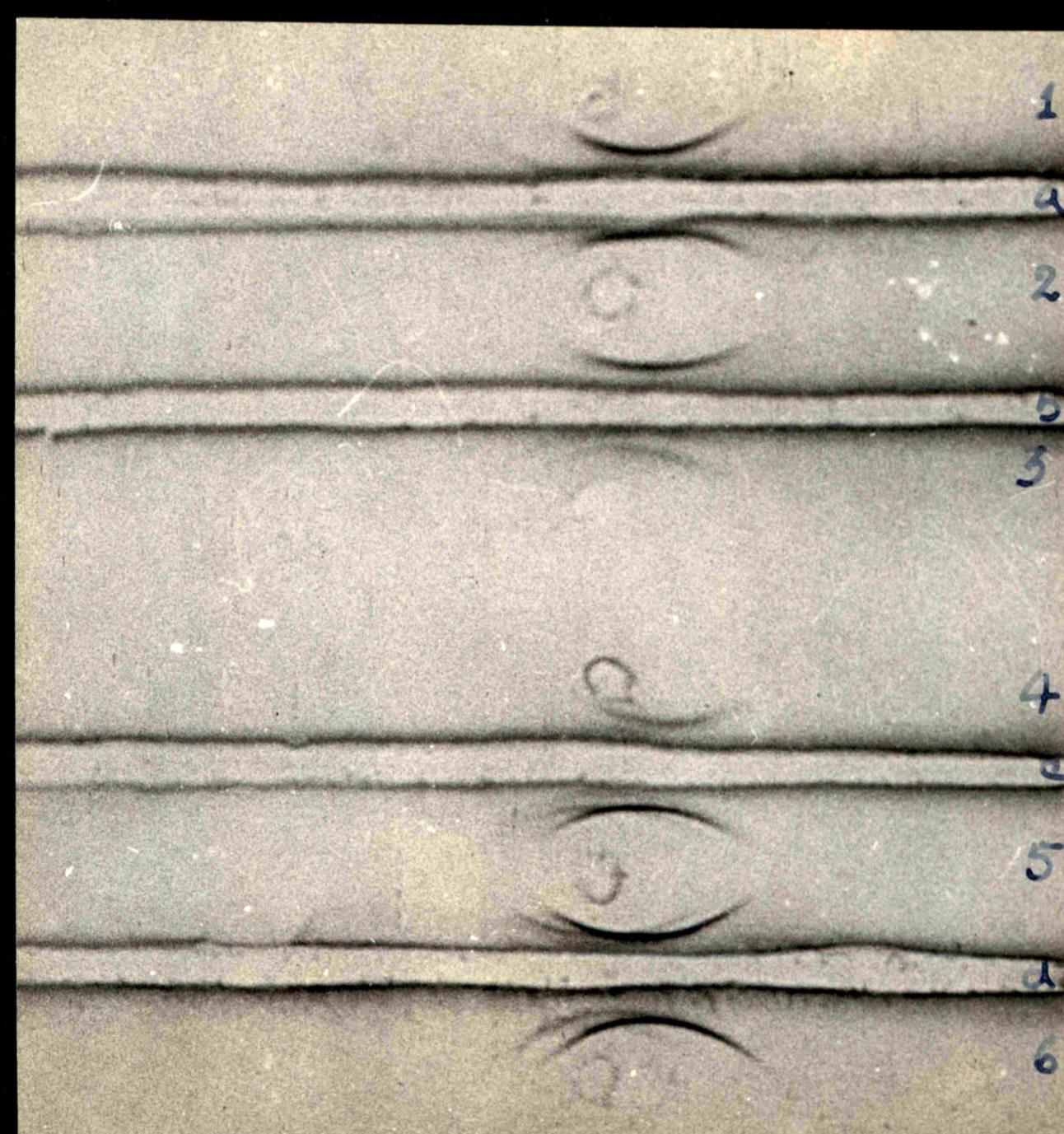
Antibodies Troughs a,b,c,d. Antipooled cattle transferrin sera.



Photograph 4.4.3.7: Showing the immunoelectrophoresis of purified cattle and buffalo transferrins against antipooled buffalo sera.

Antigen wells 1. TfAA 2. TFD₁₁ 3. TFD₂₂ 4. TFE 5. TFDD (Buff)
6. TFKK (Buff)

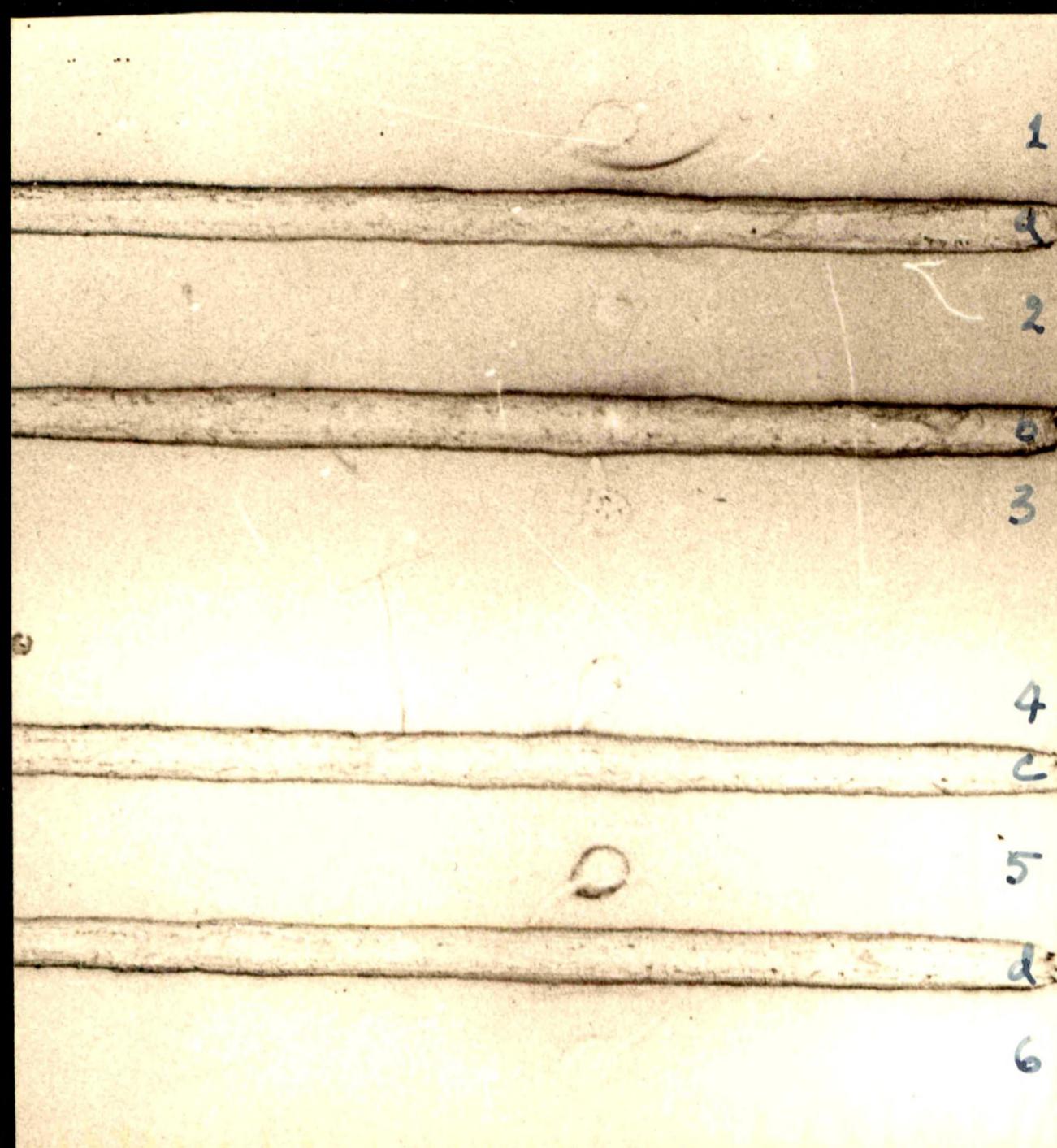
Antibodies Troughs a,b,c,d. Antipooled buffalo sera.



Photograph 4.4.3.8: Showing the immunoelectrophoresis of purified cattle and buffalo transferrins against antipooled buffalo transferrin sera.

Antigen wells 1. TfAA 2. TFD₁₁ 3. TFD₂₂ 4. TFE 5. TFDD(Buff)
6. TFKK (Buff)

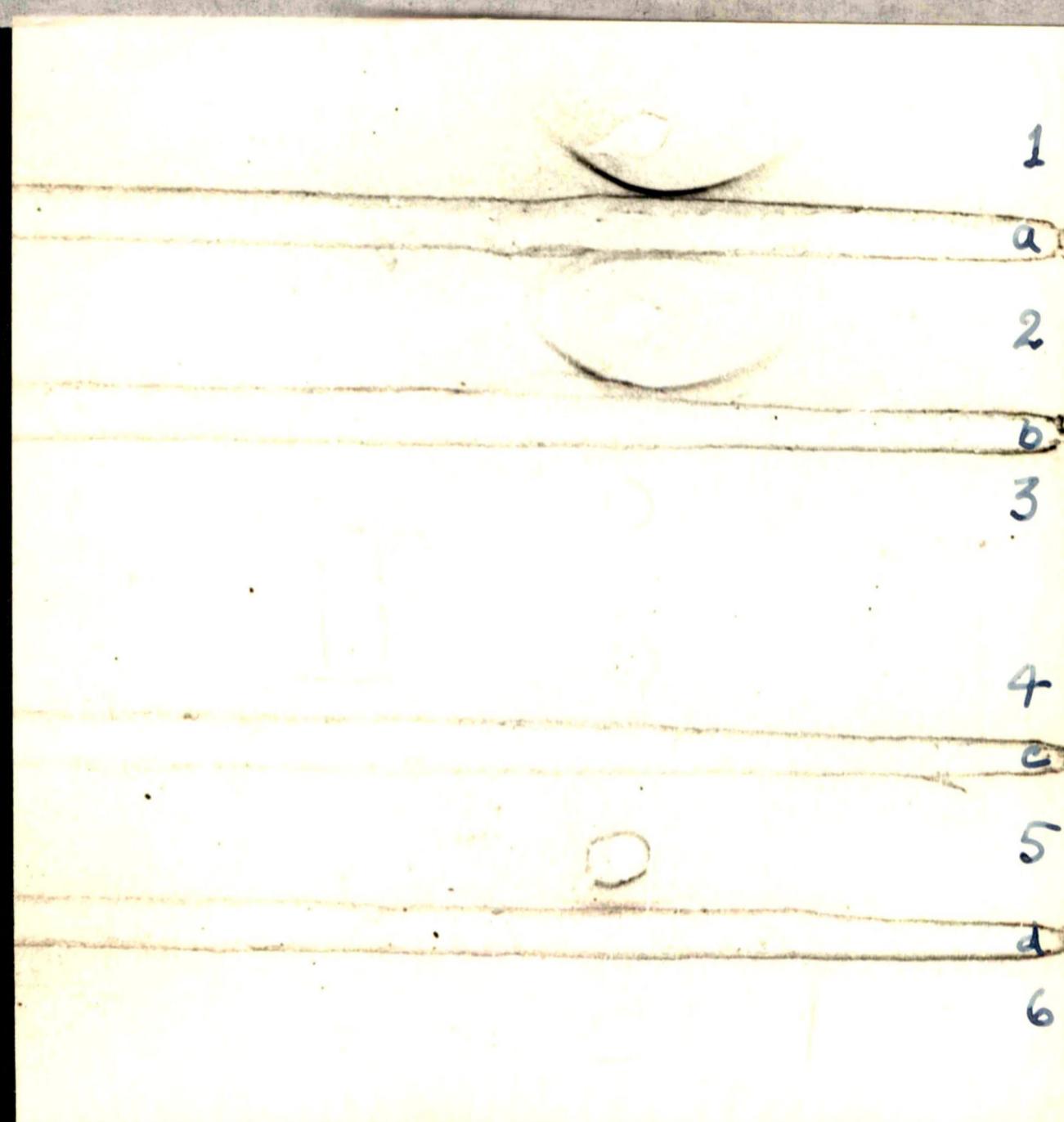
Antibodies Troughs a,b,c,d. Antipooled buffalo transferrin sera.



Photograph 4.4.3.9: Showing the immunoelectrophoresis for the effect of heat on transferrin when tested against antipooled cattle sera.

Antigen wells 1. TfAA (without heating) 2. TFD₁D₁ (without heating)
3. TFD₂D₂ (without heating) 4. TfEE (heated) 5. TfDD (Buffalo
type heated) 6. TfKK (buffalo type heated)

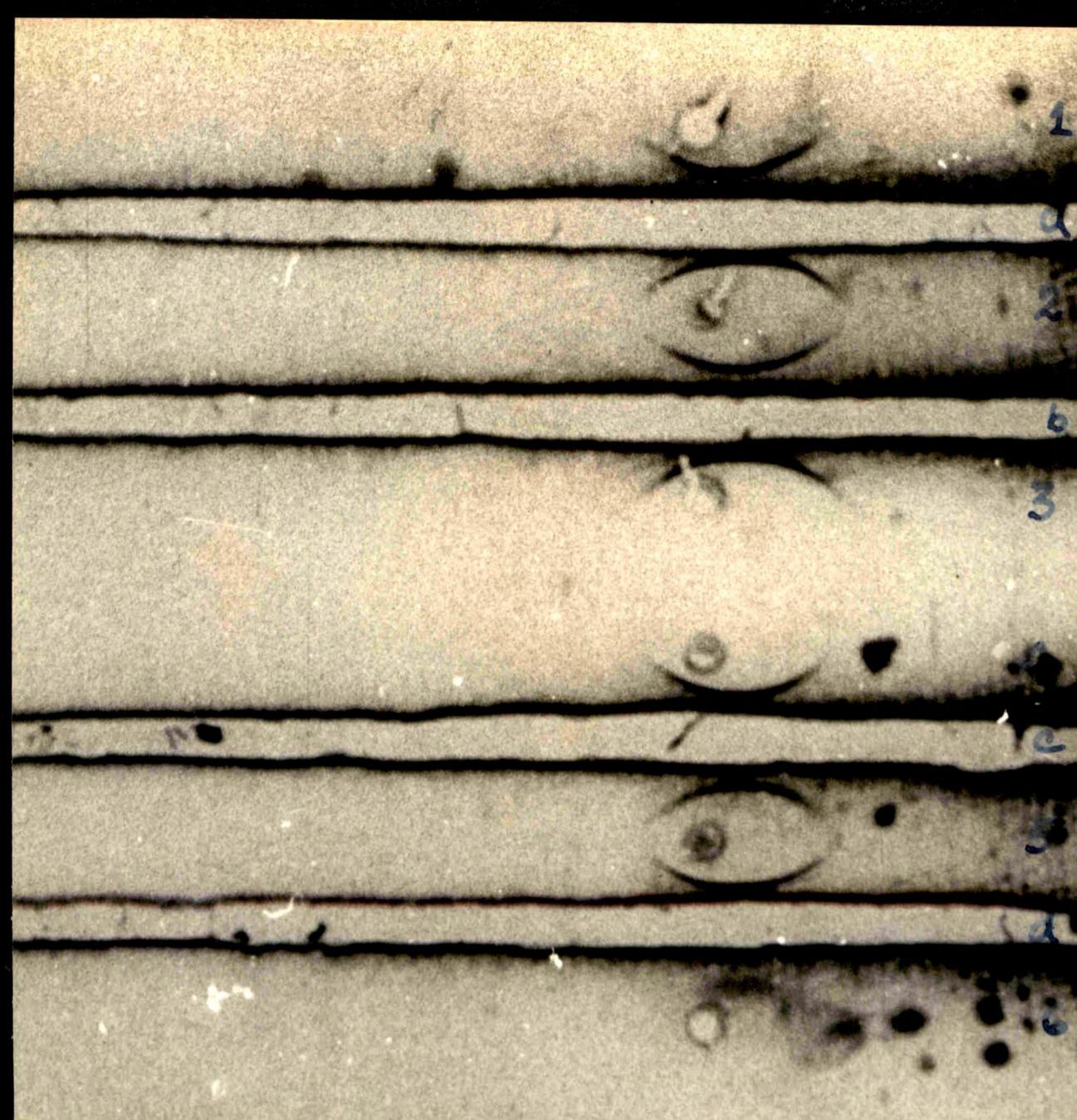
Antibodies Troughs a,b,c,d. Antipooled cattle sera.



Photograph 4.4.1.30: Showing the immunoelectrophoresis for the effect of heat on transferrin when tested against antipooled transferrin sera.

Antigen wells 1. TfAA (without heating) 2. TFD₁D₁ (without heating)
3. TFD₂D₂ (without heating) 4. TfEE (heated) 5. TfDD (Buff. type
heated) 6. TfKK (Buff. type heated).

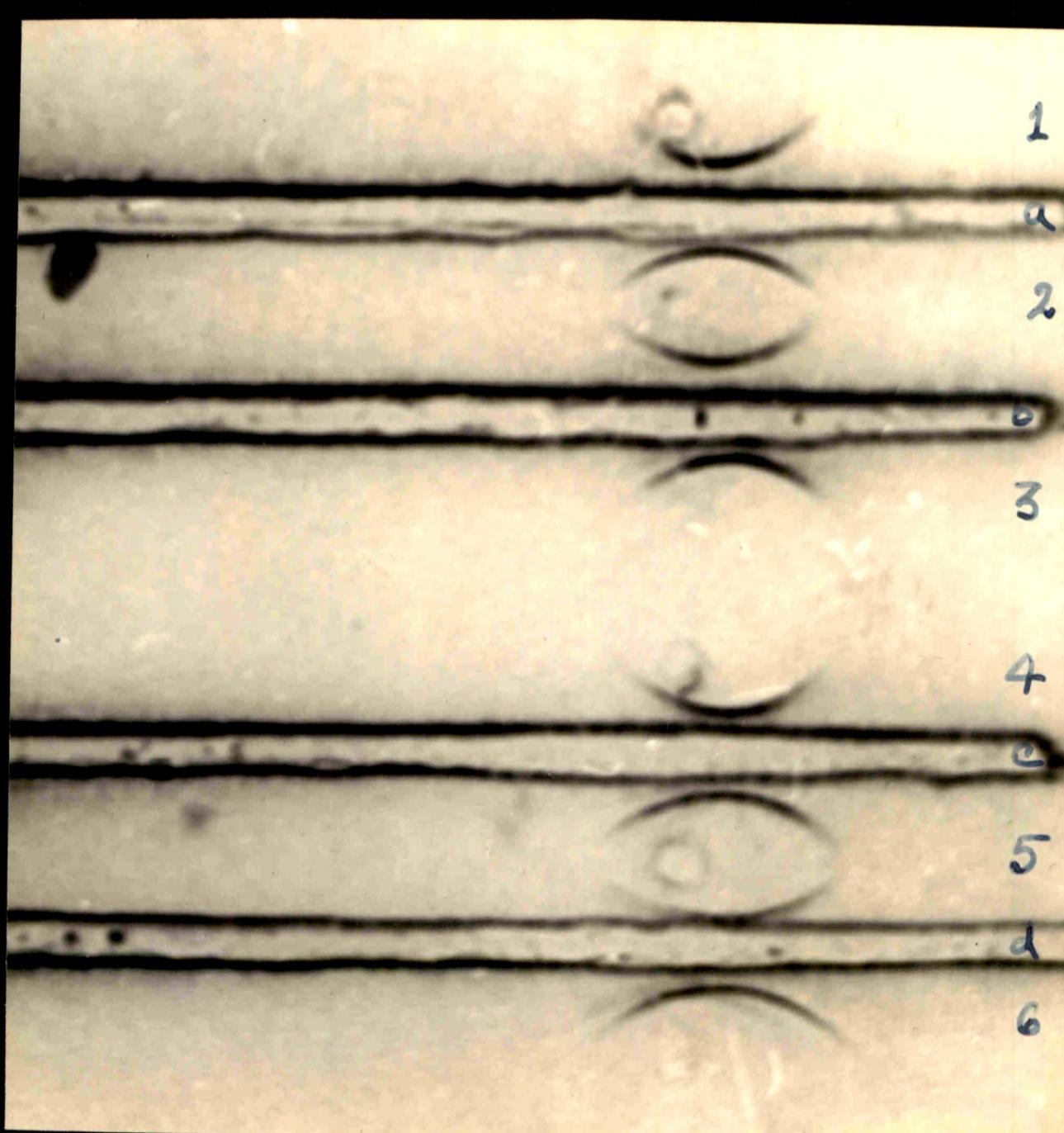
Antibodies Troughs a,b,c,d. Antipooled cattle transferrin sera.



Photograph 4.4.3.11: Showing the immunoelectrophoresis of combination of two transferrin types together against antipoled cattle transferrin sera.

Antigen wells 1. TfAD₁ 2. TfAD₂ 3. TFAE 4. TFD_{1,2} 5. TFD₁
 6. TFD₂

Antibodies Troughs a,b,c,d. Antipoled cattle transferrin sera.



Photograph 4.4.3.12: Showing the immunoelectrophoresis of combination of three and four transferrin types together against antipoled cattle transferrin sera.

Antigen wells 1. TfAD_{1,2} 2. TfAD₁F 3. TfAD₂E 4. TFD_{1,2}E
 5. TfAD_{1,2}E 6. TFDK (Buff)

Antibodies Troughs a,b,c,d. Antipoled transferrin sera.