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Dr. S. Spiegelman,
Department of Microbiology,
University of Illinois,
127 Burrill Hall,
Urbana,
Illinois.

Dear Sol,

I have just spent the best part of a fortnight in Fred Sanger's lab. in Cambridge getting to grips with the RNA fingerprinting technique using high voltage paper electrophoresis. Also I ran our high-U Z1K/1 RNA phage and we found substantial differences between it and the MS2 or f_2 phages (the latter two appearing identical on the fingerprint). The method is very reproducible and would stand scaling up to do RNA sequences on molecules or submolecules of 100-200 nucleotides in a short time. They have almost completed the sequence of 5 s RNA.

I am sure that it is time to start a large scale effort on determining the sequence of all or large parts of the Qβ RNA. It will however require quite a bit of equipment. It is evident that the limiting factor to Sanger's work on 5 s RNA is the inavailability of high voltage equipment. They have to share it all with Hartley's group and this limits them to nights. If we could have the almost exclusive use of several high voltage power packs and tanks I'm sure we can make fast progress. This brings me to the purpose of this letter, which is to ask what h.v. equipment (if any) do you have available? I reckon we could do with 3 power packs* (5kv.) and 6 tanks.

If you think that we will be able to go ahead with this sequencing programme in terms of analysing specific sections of the phage RNA, and primary products of the replicase then I will work out a detailed list of the special equipment which we need, i.e. paper, chemicals, enzymes and hardware, and send it to you.

On a personal level we have booked our passage to Urbana and should arrive about the 30th August.

With all best wishes to you and your wife, looking forward to hearing from you.

Yours,
David

* Say 3 × 5kv, 1 amp or 6 × 3kv, 500mA.