SRE/SEW/3.1.1

Dr. M.A. Birdet,
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PO Box 6500,
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16th October, 1972

Dear Mike,

Inhibition of Radical Initiated Polymerisation of Vinyl Acetate by Tobacco Smoke and Some Polycyclic Hydrocarbons

Dr. Green passed your letter and paper to Southampton for comments and it has been left to me to co-ordinate the reply.

We feel that this is a worthwhile paper and would seem to be suitable for publication in Beitrage. There are two general comments and a number of detailed points which we would suggest you would like to consider before you submit the paper.

1. Introduction: Although you refer to comparable studies by other workers, outsiders might feel that the background information on the ITP studies is a little lengthy for a publication.

2. Mechanisms: On page 13 you outline the various stages of the reaction mechanism and this seems to us desirable. You then go on to describe some of these in detail (pp 14, 15) and I would suggest that this is probably unnecessary, particularly as you summarise the mechanisms and reactive species in Table IV.

The more specific detailed points are as follows:

(a) Page 2: You use the term simple "predictive" tests and we all know what you mean here, but wonder whether some other phrase might be more appropriate. The only one that comes to mind at present is "simple tests that may be related to biological activity". In this connection, the relation of this test appears to be a complicated one since isoprene, for example, could react with carcinogenic compounds, anti-cancer drugs or even cytotoxic chemicals. Have you considered the possibility that smoke contains initiators as well as inhibitors?

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(b) Page 3: We assume that electrostatic precipitation was used following the Grimmer study, but wonder what effect this could have in a st[illegible] of inhibitors. Could this account for the resu[illegible] found for the enriched fractions (page 11) or is this due to subsequent manipulation of the condensates?

(c) Pages 5/7: You refer to the amounts of various dienes in flue-cured tobacco smoke. If data on burley and cigar smoke is available, this could lend considerable support to the discussion. I have checked the Eisenhour and Schultz review (Beiträge, 1968, 4, 90) and note that there are quite a number of references quoted for these compounds so relevant information may be available.

(d) Table II: It is not really clear whether the tobacco or the condensate was extracted with toluene/acetone.

(e) Page 11: On line 2 you refer to "activity per ppm". "Per ppm" seems a little strange - would this be improved as "activity (min ppm )", or by including the word "inhibitory"?

(f) Page 11: Your statement that non-carcinogens tend to have lower activities does not really match up with Table III. It might be better to restrict the comment to weak carcinogens and simply state that the non-carcinogens appear anomalous. In this connection, Ray has given me a reference to the action of anthracene as a potent carcinogen (W. Peller, Strahlentherapie, 1950, 81, 529) and inclusion of this reference could help to explain the anomaly.

I hope that you will not feel that these comments are too critical as they are put forward with the intention of being constructive and I hope that you will find them helpful.

With kind regards,

Yours sincerely,

S.R. EVELYN

cc: Mr. R.S. Wade
Dr. S.J. Green
Dr. D.G. Felton

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