

Supplemental Material:

The Species Interchanges Charts

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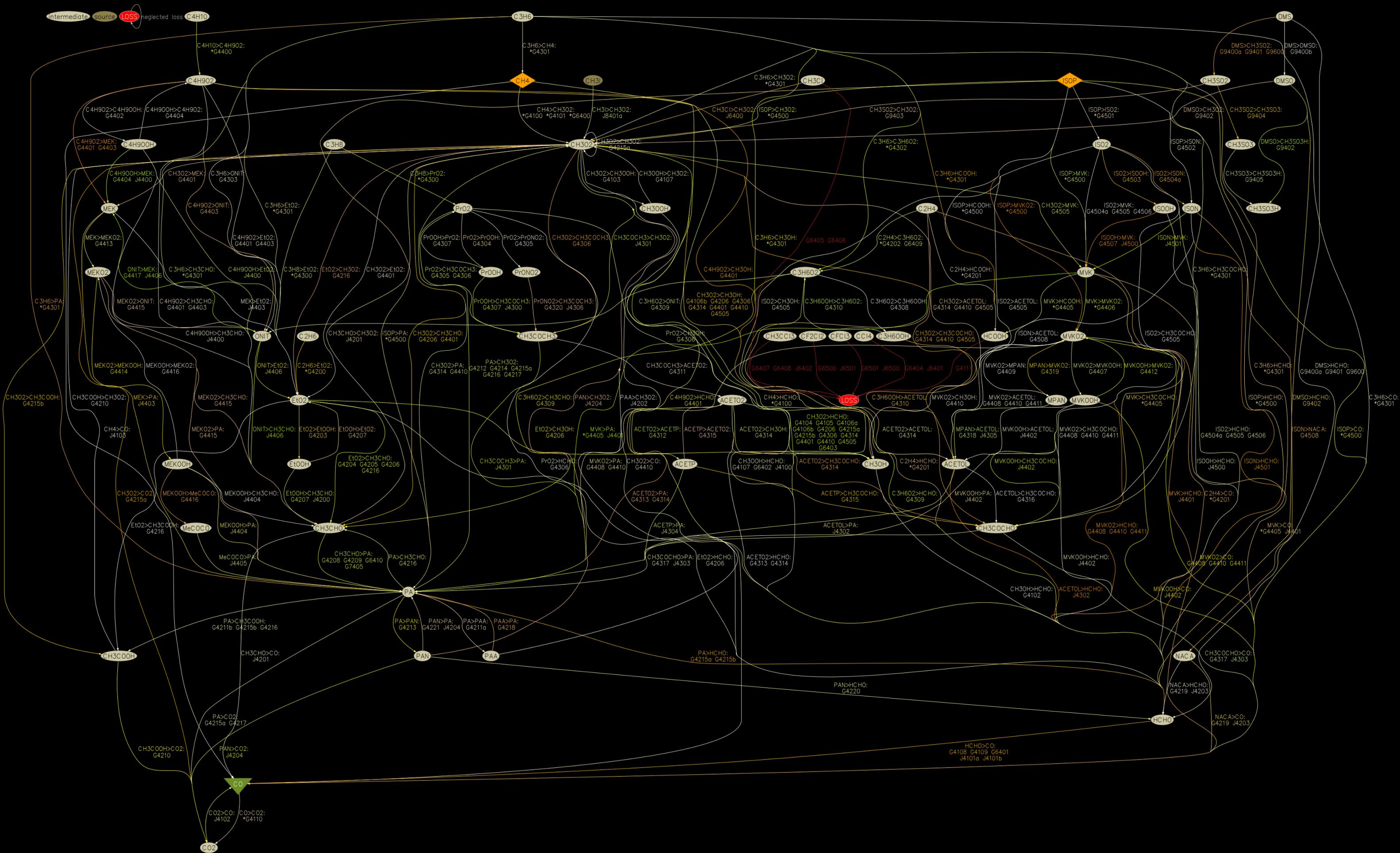
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Notes to the charts presented below

The figures in the following are produced by the parsing tools of MECCA-TAG as the additional diagnostic information on the studied chemical mechanism. Within this supplement, we enclose two charts depicting the carbon and the oxygen isotope composition interchanges resulting from the set of reactions included in the MECCA mechanism and additional information on the composition transfer supplied to MECCA-TAG during the isotopic tagging (see text for the details).

Each chart consists of balloons (representing species compartments) and arrows connecting them (representing the direction of exchange between a pair of species). Each arrow is captioned with the sign including the educt and product species and a set of reactions providing this pair exchange. For example, one may find a caption 'NO₂>O₂: G3105 G3106', which means "in this mechanism, NO₂ reacts (giving its composition) to O₂ in reactions named G3105, G3106'. The latter abbreviations can be used to find a particular reaction in the MECCA mechanism file (included in this supplement).

The chemical mechanism we employ is rather comprehensive, the numbers of species and reactions they act in reach hundreds. Thus, unfortunately, these detailed graphs are only suitable to be printed on the paper of formats A3 and larger. The reader, nevertheless, can use the zoom and the context search tool (available in PDF files viewers usually under "Edit → Search" menu) to find the exchange information for a given pair of species, using the sample provided above.



SPECIES INTERCHANGES CHART (use PDF search for a pair, e.g. O2>H2O)

TAG / configuration: STABLE ISOTOPE CARBON
 MECCA / mechanism: ((T1S1)&&G)&&B&&I&&H&&I
 =02-02-10 18:29:17= [Gromov, MPI-C]

