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$k = 1; $U = QU; $E := {$k};
$trim := { $\epsilon^{k-}$  /;  $k > $k \rightarrow \emptyset$ };
SetAttributes[{SS, SST}, HoldAll];
 $q_{\tilde{h}-} := e^{\gamma \epsilon^{\tilde{h}}}$ ;
(* Upper to lower and lower to Upper: *)
U2l = { $B_{i-}^{p-} \rightarrow e^{-p \tilde{h} \gamma b_i}$ ,  $B^{p-} \rightarrow e^{-p \tilde{h} \gamma b}$ ,  $T_{i-}^{p-} \rightarrow e^{p \tilde{h} t_i}$ ,  $T^{p-} \rightarrow e^{p \tilde{h} t}$ ,  $\mathcal{A}_{i-}^{p-} \rightarrow e^{p \gamma \alpha_i}$ ,  $\mathcal{A}^{p-} \rightarrow e^{p \gamma \alpha}$ };
l2U = { $e^{c- \cdot b_{i-} + d-} \mapsto B_i^{-c / (\tilde{h} \gamma)} e^d$ ,  $e^{c- \cdot b + d-} \mapsto B^{-c / (\tilde{h} \gamma)} e^d$ ,
 $e^{c- \cdot t_{i-} + d-} \mapsto T_i^{c / \tilde{h}} e^d$ ,  $e^{c- \cdot t + d-} \mapsto T^{c / \tilde{h}} e^d$ ,
 $e^{c- \cdot \alpha_{i-} + d-} \mapsto \mathcal{A}_i^{c / \gamma} e^d$ ,  $e^{c- \cdot \alpha + d-} \mapsto \mathcal{A}^{c / \gamma} e^d$ ,
 $e^{\mathcal{E}-} \mapsto e^{\text{Expand} @ \mathcal{E}}$ };
SS[ $\mathcal{E}_$ ,  $op_$ ] := Collect[Normal@Series[ $\mathcal{E}$ , { $\epsilon$ , 0, $k}],  $\epsilon$ ,  $op$ ];
SS[ $\mathcal{E}_$ ] := SS[ $\mathcal{E}$ , Together];
SST[ $\mathcal{E}_$ ,  $op_{--}$ ] := SS[ $\mathcal{E}$  /. U2l,  $op$ ];
Simp[ $\mathcal{E}_$ ,  $op_$ ] := Collect[ $\mathcal{E}$ , _CU | _QU,  $op$ ];
Simp[ $\mathcal{E}_$ ] := Simp[ $\mathcal{E}$ , SS[#, Expand] &];
SimpT[ $\mathcal{E}_$ ] := Collect[ $\mathcal{E}$ , _CU | _QU, SST[#, Expand] &];
K $\delta$  /: K $\delta_{i-, j-}$  := If[ $i == j$ , 1, 0];
 $c\_Integer_{k\_Integer} := c + 0[\epsilon]^{k+1}$ ;

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