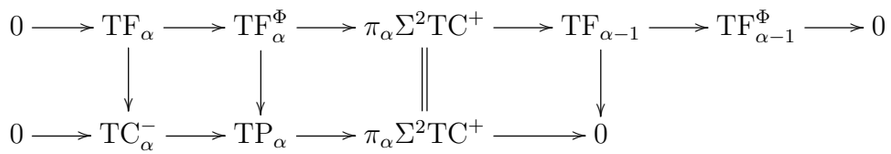

$$G = C_p$$

Case	Subcase	TF_α	$\mathrm{T}\Phi_\alpha$	$\pi_\alpha\Sigma^2\mathrm{TC}^+$	$\mathrm{TF}_{\alpha-1}$	$\mathrm{T}\Phi_{\alpha-1}$
$d_0 > 0$	$d_\infty \geq 0$	$A\langle v_0^{d_0} u_{\lambda_0}^{d_\infty}\rangle$	$A\langle a_{\lambda_0}^{-d_0} u_{\lambda_0}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle a_{\lambda_0}^{-d_0} u_{\lambda_0}^{d_\infty}\rangle$	0	0
	$d_\infty < 0$	0	0	$A/\xi^{d_0}\langle a_{\lambda_0}^{-d_0} u_{\lambda_0}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle \Sigma^{-1} a_{\lambda_0}^{-d_0} u_{\lambda_0}^{d_\infty}\rangle$	0
$d_0 \leq 0$	$d_\infty \geq 0$	$A\langle a_{\lambda_0}^{-d_0} u_{\lambda_0}^{d_\infty}\rangle$	$A\langle a_{\lambda_0}^{-d_0} u_{\lambda_0}^{d_\infty}\rangle$	0	0	0
	$d_\infty < 0$	0	0	0	0	0

$$G = C_{p^2}$$

Case-1	Case-2	Case-3	TF_α	$\mathrm{T}\Phi_\alpha$	$\pi_\alpha\Sigma^2\mathrm{TC}^+$	$\mathrm{TF}_{\alpha-1}$	$\mathrm{T}\Phi_{\alpha-1}$
$d_0 > 0$	$d_\infty \geq 0$	$d_1 > 0$	$A\langle v_0^{d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A\langle a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	0	0
		$d_1 \leq 0$	$A\langle v_0^{d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A\langle a_{\lambda_0}^{-d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_0},\phi(\xi)^{-d_1}}\langle \Sigma^{-1} a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	0
	$d_\infty < 0$	$d_1 > 0$	0	0	$A/\xi^{d_0}\langle a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_0}\phi(\xi)^{d_1}}\langle \Sigma^{-1} a_{\lambda_0}^{-d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A/\xi^{d_1}\langle \Sigma^{-1} a_{\lambda_0}^{-d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$
		$d_1 \leq 0$	0	0	$A/\xi^{d_0}\langle a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle \Sigma^{-1} a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	0
$d_0 \leq 0$	$d_\infty \geq 0$	$d_1 > 0$	$A\langle a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A\langle a_{\lambda_0}^{-d_0} v_1^{d_1} u_{\lambda_1}^{d_\infty}\rangle$	0	0	0
		$d_1 \leq 0$	$A\langle a_{\lambda_0}^{-d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A\langle a_{\lambda_0}^{-d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$	0	0	0
	$d_\infty < 0$	$d_1 > 0$	0	0	0	$A/\phi(\xi)^{d_1}\langle \Sigma^{-1} a_{\lambda_0}^{-d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$	$A/\xi^{d_1}\langle \Sigma^{-1} a_{\lambda_0}^{-d_0} b_1^{-d_1} u_{\lambda_1}^{d_\infty}\rangle$
		$d_1 \leq 0$	0	0	0	0	0

$$G = C_{p^3}$$

$$a_1 u_0 = \phi(\xi) a_0 u_1$$
$$b_1 = \phi(\xi) v_1^{-1}$$

Case-1	Case-2	Case-3	Case 4	TF_α	$\mathrm{T}\Phi_\alpha$	$\pi_\alpha\Sigma^2\mathrm{TC}^+$	$\mathrm{TF}_{\alpha-1}$	$\mathrm{T}\Phi_{\alpha-1}$
$d_0>0$	$d_1>0$	$d_2>0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	0	0
			$d_\infty<0$	0	0	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_0}\phi(\xi)^{d_1}\phi^2(\xi)^{d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_1}\phi(\xi)^{d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$
		$d_2\leq 0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}v_1^{d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{???}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_1},\phi(\xi)^{-d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$
			$d_\infty<0$	0	0	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_0}\phi(\xi)^{d_1}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\xi^{d_1}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$
	$d_1\leq 0$	$d_2>0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_0},\phi(\xi)^{d_1}}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	0
			$d_\infty<0$	0	0	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_0}\phi^2(\xi)^{d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\phi(\xi)^{d_2}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$
		$d_2\leq 0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_0},\phi(\xi)^{d_1}}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	0
			$d_\infty<0$	0	0	$A/\xi^{d_0}\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\xi^{d_0}\langle\Sigma^{-1}b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	0
$d_0\leq 0$	$d_1>0$	$d_2>0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}v_1^{d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	0	0	0
		∞	$d_\infty<0$	0	0	0	$\frac{A}{\phi(\xi)^{d_1}\phi^2(\xi)^{d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_1}\phi(\xi)^{d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$
		$d_2\leq 0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}v_1^{d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	0	$\frac{A}{\phi(\xi)^{d_1},\phi^2(\xi)^{d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	$\frac{A}{\xi^{d_1},\phi(\xi)^{-d_2}}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$
			$d_\infty<0$	0	0	0	$A/\phi(\xi)^{d_1}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_1}^{d_\infty}\rangle$	$A/\xi^{d_1}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_1}^{d_\infty}\rangle$
	$d_1\leq 0$	$d_2>0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}b_1^{-d_1}v_2^{d_2}u_{\lambda_2}^{d_\infty}\rangle$	0	0	0
			$d_\infty<0$	0	0	0	$A/\phi^2(\xi)^{d_2}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	$A/\phi(\xi)^{d_2}\langle\Sigma^{-1}b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$
		$d_2\leq 0$	$d_\infty\geq 0$	–	$A\langle b_0^{-d_0}b_1^{-d_1}b_2^{-d_2}u_{\lambda_2}^{d_\infty}\rangle$	0	0	0
			$d_\infty<0$	0	0	0	0	0