$q-$Expansion of the square of the Vandermonde determinant

Factored form

The first entry in square brackets is the value of the $q-$polynomial for $q=1$

N = 2

$$[1]q\{2\}$$
$$[-3]-(q^2+q+1)\{1^2\}$$

N = 3

$$[1]q^3\{42\}$$
$$[-3]-q^2(q^2+q+1)(\{41^2\}+\{3^2\})$$
$$[6]+q(q^2+q+1)(q^2+1)\{321\}$$
$$[-15]-(q^2+q+1)(q^4+q^3+q^2+q+1)\{2^3\}$$

N = 4

$$[1]q^6\{642\}$$
$$[-3]-q^5(q^2+q+1)(\{641^2\}+\{63^2\}+\{5^22\})$$
$$[6]+q^4(q^2+1)(q^2+q+1)(\{6321\}+\{543\})$$
$$[9]+q^4(q^2+q+1)^2\{5^21^2\}$$
$$[-15]-q^3(q^2+q+1)(q^4+q^3+q^2+q+1)(\{62^3\}+\{4^3\})$$
$$[-12]-q^3(q^2+q+1)(q^2+1)^2\{5421\}$$
$$[-9]-q^3(q^2-q+1)(q^2+q+1)^2\{53^21\}$$
$$[-6]-q^3(q^2+q+1)(q^4+1)\{4^22^2\}$$
$$[27]+q^2(q^2-q+1)(q^2+q+1)^3(\{532^2\}+\{4^231\})$$
$$[-45]-q(q^2-q+1)(q^4+q^3+q^2+q+1)(q^2+q+1)^2\{43^22\}$$
$$[105]+(q^2+q+1)(q^4+q^3+q^2+q+1)(q^6+q^5+q^4+q^3+q^2+q+1)\{3^4\}$$

N = 5

$$[1]q^{10}\{8642\}$$
$$[-3]-q^9(q^2+q+1)(\{8641^2\}+\{863^2\}+\{85^22\}+\{7^242\})$$
$$[6]+q^8(q^2+1)(q^2+q+1)(\{86321\}+\{8543\}+\{7652\})$$
$$[9]+q^8(q^2+q+1)^2(\{85^21^2\}+\{7^241^2\}+\{7^23^2\})$$
$$[-12]-q^7(q^2+q+1)(q^2+1)^2(\{85421\}+\{7643\})$$
$$[-9]-q^7(q^2-q+1)(q^2+q+1)^2(\{853^21\}+\{75^23\})$$
$$[-6]-q^7(q^2+q+1)(q^4+1)(\{84^22^2\}+\{6^24^2\}$$
$$[-15]-q^7(q^2+q+1)(q^4+q^3+q^2+q+1)(\{862^3\}+\{84^3\}+\{6^32\})$$
$$[-18]-q^7(q^2+1)(q^2+q+1)^2(\{7^2321\}+\{7651^2\})$$
$$[27]+q^6(q^2-q+1)(q^2+q+1)^3(\{8532^2\}+\{84^231\}+\{754^2\}+\{6^253\})$$
$$[24]+q^6(q^2+q+1)(q^2+1)^3\{76421\}$$
$$[18]+q^6(q^2+1)(q^2-q+1)(q^2+q+1)^2(\{763^21\}+\{75^221\})$$
$$[45]+q^6(q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{7^22^3\}+\{6^31^2\})$$
$$[-45]-q^5(q^2-q+1)(q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{843^22\}+\{65^24\})$$
$$[-54]-q^5(q^2+1)(q^2-q+1)(q^2+q+1)^3(\{7632^2\}+\{6^2521\})$$
$$[-36]-q^5(q^2-q+1)(q^2+q+1)^2(q^2+1)^2(\{75431\}+\{74^31\})$$
$$[-27]-q^5(q^2-q+1)^2(q^2+q+1)^3(\{7542^2\}+\{6^2431\})$$
$$[-18]-q^5(q^2-q+1)(q^4+1)(q^2+q+1)^2(\{6^23^22\}+\{65^22^2\})$$
$$[105]+q^4(q^2+q+1)(q^4+q^3+q^2+q+1)(q^6+q^5+q^4+q^3+q^2+q+1)(\{83^4\}+\{5^4\})$$
$$[16]+q^4(q^2-q+1)^2(q^2+q+1)^4(\{753^22\}+\{65^231\})$$
$$[72]+q^4(q^4+1)(q^2+1)^2(q^2+q+1)^2(\{74^232\}+\{654^21\})$$
$$[111]+q^4(q^2+q+1)(q^{10}+2q^9+4q^8+3q^7+6q^6+5q^5+6q^4+3q^3+4q^2+2q+1)\{6^242^2\}$$
$$[54]+q^4(q^4-q^3+q^2-q+1)(q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{653^3\}+\{5^332\})$$
$$[-180]-q^3(q^2+1)(q^4+q^3+q^2+q+1)(q^4+1)(q^2+q+1)^2(\{743^3\}+\{5^341\})$$
$$[-144]-q^3(q^4+1)(q^2+q+1)^2(q^2+1)^3\{65432\}$$
$$[-90]-q^3(q^4+q^3+q^2+q+1)(q^2-q+1)(q^4+1)(q^2+q+1)^2\{64^32\}$$
$$[-75]-q^3(q^2+q+1)(q^4-q^3+q^2-q+1)(q^4+q^3+q^2+q+1)^2\{5^243^2\}$$
$$[270]+q^2(q^4+q^3+q^2+q+1)(q^2-q+1)(q^4+1)(q^2+q+1)^3(\{64^23^2\}+\{5^24^22\})$$
$$[-420]-q(q^2+q+1)(q^2+1)(q^4+q^3+q^2+q+1)(q^4+1)(q^6+q^5+q^4+q^3+q^2+q+1)\{54^33\}$$
$$[945]+(q^4+q^3+q^2+q+1)(q^6+q^3+1)(q^6+q^5+q^4+q^3+q^2+q+1)(q^2+q+1)^2\{4^5\}$$

N = 6

$[1]q^{15}\{10\ 8642\}$
$[-3]-q^{14}(q^2+q+1)(\{10\ 8641^2\}+\{10\ 863^2\}+\{10\ 85^22\}+\{10\ 7^242\}+\{9^2642\})$
$[6]+q^{13}(q^2+q+1)(q^2+1)(\{10\ 86321\}+\{10\ 8543\}+\{10\ 7652\}+\{98742\})$
$[9]+q^{13}(q^2+q+1)^2(\{10\ 85^21^2\}+\{10\ 7^241^2\}+\{10\ 7^23^2\}+\{9^2641^2\}+\{9^263^2\}+\{9^25^22\})$
$[-15]-q^{12}(q^2+q+1)(q^4+q^3+q^2+q+1)(\{10\ 862^3\}+\{10\ 84^3\}+\{10\ 6^32\}+\{8^342\})$
$[-9]-q^{12}(q^2-q+1)(q^2+q+1)^2(\{10\ 853^21\}+\{10\ 75^23\}+\{97^252\})$
$[-12]-q^{12}(q^2+q+1)(q^2+1)^2(\{10\ 85421\}+\{10\ 7643\}+\{98652\})$
$[-6]-q^{12}(q^2+q+1)(q^4+1)(\{10\ 84^22^2\}+\{10\ 6^24^2\}+\{8^26^22\})$
$[-18]-q^{12}(q^2+1)(q^2+q+1)^2(\{10\ 7^2321\}+\{10\ 7651^2\}+\{9^26321\}+\{9^2543\}+\{98741^2\}+\{9873^2\})$
$[-27]-q^{12}(q^2+q+1)^3\{9^25^21^2\}$
$[27]+q^{11}(q^2-q+1)(q^2+q+1)^3(\{10\ 8532^2\}+\{10\ 84^231\}+\{10\ 754^2\}+\{10\ 6^253\}$
$+\{9^253^21\}+\{97^251^2\}+\{976^22\}+\{8^2752\})$
$[24]+q^{11}(q^2+q+1)(q^2+1)^3(\{10\ 76421\}+\{98643\})$
$[45]+q^{11}(q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{10\ 7^22^3\}+\{10\ 6^31^2\}$
$+\{9^262^3\}+\{9^24^3\}+\{8^341^2\}+\{8^33^2\})$
$[18]+q^{11}(q^2-q+1)(q^2+1)(q^2+q+1)^2(\{10\ 763^21\}+\{10\ 75^221\}+\{985^23\}+\{97^243\})$
$[36]+q^{11}(q^2+1)^2(q^2+q+1)^2(\{9^25421\}+\{987321\})+\{98651^2\})$
$[18]+q^{11}(q^4+1)(q^2+q+1)^2(\{9^24^22^2\}+\{8^26^21^2\})$
$[-36]-q^{10}(q^2+1)(q^4+1)(q^2+q+1)^2(\{10\ 74^31\}+\{96^33\})$
$[-45]-q^{10}(q^2-q+1)(q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{10\ 843^22\}+\{10\ 65^24\}+\{87^262\})$
$[-54]-q^{10}(q^2-q+1)(q^2+1)(q^2+q+1)^3(\{10\ 7632^2\}+\{10\ 6^2521\}+\{9854^2\}+\{8^2743\})$
$[-36]-q^{10}(q^2-q+1)(q^2+1)^2(q^2+q+1)^2(\{10\ 75431\}+\{9863^21\}+\{985^221\}+\{97^2421\}+\{97653\})$
$[-27]-q^{10}(q^2-q+1)^2(q^2+q+1)^3(\{10\ 7542^2\}+\{10\ 6^2431\}+\{97^23^21\}+\{9764^2\}+\{8^2653\})$
$[-18]-q^{10}(q^2-q+1)(q^4+1)(q^2+q+1)^2(\{10\ 6^23^22\}+\{10\ 65^22^2\}+\{8^25^24\}+\{87^24^2\})$
$[-81]-q^{10}(q^2-q+1)(q^2+q+1)^4(\{9^2532^2\}+\{9^24^231\}+\{976^21^2\}+\{8^2751^2\})$
$[-90]-q^{10}(q^2+1)(q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{9872^3\}+\{8^3321\})$
$[-48]-q^{10}(q^2+q+1)(q^2+1)^4\{986421\}$
$[105]+q^9(q^2+q+1)(q^4+q^3+q^2+q+1)(q^6+q^5+q^4+q^3+q^2+q+1)(\{10\ 83^4\}+\{10\ 5^4\}+\{7^42\})$
$[81]+q^9(q^2-q+1)^2(q^2+q+1)^4(\{10\ 753^22\}+\{10\ 65^231\}+\{97^232^2\}+\{975^24\}+\{8^273^21\}+\{87^253\})$
$[72]+q^9(q^4+1)(q^2+1)^2(q^2+q+1)^2(\{10\ 74^232\}+\{10\ 654^21\}+\{984^31\}$
$+\{96^321\}+\{96^254\}+\{876^23\})$
$[111]+q^9(q^2+q+1)(q^{10}+2q^9+4q^8+3q^7+6q^6+5q^5+6q^4+3q^3+4q^2+2q+1)(\{10\ 6^242^2\}+\{8^264^2\})$
$[45]+q^9(q^4+q^3+q^2+q+1)(q^4-q^3+q^2-q+1)(q^2+q+1)^2(\{10\ 653^3\}+\{10\ 5^332\}+\{875^3\}+\{7^354\})$
$[135]+q^9(q^2-q+1)(q^4+q^3+q^2+q+1)(q^2+q+1)^3(\{9^243^22\}+\{87^261^2\})$
$[108]+q^9(q^2-q+1)(q^2+1)^2(q^2+q+1)^3(\{98632^2\}+\{8^27421\})$
$[72]+q^9(q^2-q+1)(q^2+q+1)^2(q^2+1)^3(\{985431\}+\{976521\})$
$[54]+q^9(q^2+1)(q^2-q+1)^2(q^2+q+1)^3(\{98542^2\}+\{8^26521\})$
$[99]+q^9(q^2-q+1)(q^2+q+1)^2(2q^6+4q^4-q^3+4q^2+2)\{976431\}$

$[81] + q^9(q^2-q+1)(q^2+q+1)^4(2q^2-3q+2)(\{975^22^2\}+\{8^25^231\})$
$[225] + q^9(q^2+q+1)^2(q^4+q^3+q^2+q+1)^2\{8^32^3\}$
$[-180] - q^8(q^2+1)(q^4+q^3+q^2+q+1)(q^4+1)(q^2+q+1)^2(\{10\ 743^3\}+\{10\ 5^341\}+\{965^3\}+\{7^363\})$
$[-144] - q^8(q^4+1)(q^2+q+1)^2(q^2+1)^3(\{10\ 65432\}+\{984^232\}+\{876^221\}+\{87654\})$
$[-90] - q^8(q^4+q^3+q^2+q+1)(q^2-q+1)(q^4+1)(q^2+q+1)^2(\{10\ 64^32\}+\{86^34\}$
$[-75] - q^8(q^2+q+1)(q^4-q^3+q^2-q+1)(q^4+q^3+q^2+q+1)^2(\{10\ 5^243^2\}+\{7^265^2\})$
$[-315] - q^8(q^4+q^3+q^2+q+1)(q^6+q^5+q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{9^23^4\}+\{7^41^2\})$
$[-162] - q^8(q^2+1)(q^2-q+1)^2(q^2+q+1)^4(\{9853^22\}+\{87^2521\})$
$[-162] - q^8(q^2+q+1)^3(q^2-q+1)(q^6+3q^4-2q^3+3q^2+1)(\{97642^2\}+\{975^231\}+\{8^26431\})$
$[-81] - q^8(q^2+q+1)^4(q^2-q+1)^3(\{9763^22\}+\{9754^21\}+\{96^2531\}+\{87^2431\})$
$[-117] - q^8(q^2+q+1)^2(q^{10}+3q^8-q^7+4q^6-q^5+4q^4-q^3+3q^2+1)(\{96^252^2\}+\{96^24^21\}+\{8^254^21\})$
$[-81] - q^8(q^2+q+1)^3(q^8-q^7+2q^6-q^5+q^4-q^3+2q^2-q+1)(\{96^23^3\}+\{7^34^21\})$
$[-243] - q^8(q^2+q+1)^5(q^2-q+1)^2\{8^2732^2\}$
$[-69] - q^8(q^2+q+1)(q^{12}+2q^{10}+6q^8+5q^6+6q^4+2q^2+1)\{8^2642^2\}$
$[-153] - q^8(q^2-q+1)(q^2+q+1)^2(q^8+2q^7+4q^6+q^5+q^4+q^3+4q^2+2q+1)\{8^25^22^2\}$
$[-36] - q^8(q^2-q+1)(q^2+q+1)^2(q^4+1)^2(\{8^24^32\}+\{86^32^2\})$
$[-54] - q^8(q^2-q+1)^2(q^2+q+1)^3(q^4+1)\{87^23^22\}$
$[-90] - q^8(q^2+q+1)^2(q^4+q^3+q^2+q+1)(q^6+q^4-2q^3+q^2+1)\{7^33^3\}$
$[270] + q^7(q^4+q^3+q^2+q+1)(q^2-q+1)(q^4+1)(q^2+q+1)^3(\{10\ 64^23^2\}+\{10\ 5^24^22\}+\{86^25^2\})$
$[360] + q^7(q^4+q^3+q^2+q+1)(q^4+1)(q^2+q+1)^2(q^2+1)^2(\{9843^3\}+\{7^3621\})$
$[270] + q^7(q^4+q^3+q^2+q+1)(q^2+q+1)^3(q^2-q+1)(q^4+1)\{7^26^24\}$
$[162] + q^7(q^2+1)(q^2-q+1)^3(q^2+q+1)^4(\{975432\}+\{876531\})$
$[162] + q^7(q^4+1)(q^2-q+1)^2(q^2+q+1)^4(\{9753^3\}+\{974^32\}+\{86^331\}+\{7^3531\})$
$[234] + q^7(q^2+1)(q^2+q+1)^2(q^{10}+3q^8-q^7+4q^6-q^5+4q^4-q^3+3q^2+1)(\{96^2432\}+\{8^25432\}+\{87652^2\}+\{8764^21\})$
$[216] + q^7(q^2+1)^2(q^4+1)(q^2-q+1)(q^2+q+1)^3\{965^241\}$
$[108] + q^7(q^2+1)(q^4+1)(q^2-q+1)^2(q^2+q+1)^3(\{965^232\}+\{875^241\})$
$[225] + q^7(q^2+q+1)^2(q^4+q^3+q^2+q+1)^2(q^4-q^3+q^2-q+1)\{95^41\}$
$[90] + q^7(q^2+q+1)^2(q^4+q^3+q^2+q+1)(q^4-q^3+q^2-q+1)(q^4+1)(\{95^33^2\}+\{7^25^31\})$
$[45] + q^7(q^2+q+1)^2(q^4-q^2+1)(q^4+q^3+q^2+q+1)(q^4-q^3+q^2-q+1)(\{7^24^4\}+\{6^43^2\})$
$[333] + q^7(q^2+q+1)^2(q^2-q+1)(q^{10}+2q^9+4q^8+3q^7+6q^6+5q^5+6q^4+3q^3+4q^2+2q+1)(\{8^263^22\}+\{87^242^2\})$
$[108] + q^7(q^2+q+1)^3(q^2-q+1)(q^4+1)^2(\{8^24^23^2\}+\{7^26^22^2\})$
$[162] + q^7(q^2+1)(q^2+q+1)^3(q^8-q^7+2q^6-q^5+q^4-q^3+2q^2-q+1)(\{8763^3\}+\{7^3432\})$
$[-420] - q^6(q^2+q+1)(q^2+1)(q^4+q^3+q^2+q+1)(q^4+1)(q^6+q^5+q^4+q^3+q^2+q+1)(\{10\ 54^33\}+\{76^35\})$
$[-486] - q^6(q^2+q+1)^5(q^2-q+1)^2(q^4+1)(\{974^23^2\}+\{7^26^231\})$
$[-324] - q^6(q^2+q+1)^4(q^2-q+1)^2(q^4+1)(q^2+1)(\{9654^22\}+\{86^2541\})$
$[-405] - q^6(q^2-q+1)(q^2+q+1)^4(q^4+q^3+q^2+q+1)(q^4-q^3+q^2-q+1)(\{95^342\}+\{865^31\})$
$[-711] - q^6(q^2+q+1)^2(q^{14}+2q^{13}+4q^{12}+4q^{11}+8q^{10}+7q^9+10q^8+7q^7+10q^6+7q^5+8q^4+4q^3+4q^2+2q+1)$
$(\{8^253^3\}+\{7^352^2\})$
$[-468] - q^6(q^2+1)^2(q^2+q+1)^2(q^{10}+3q^8-q^7+4q^6-q^5+4q^4-q^3+3q^2+1)\{876432\}$
$[-351] - q^6(q^2-q+1)(q^2+q+1)^3(q^{10}+3q^8-q^7+4q^6-q^5+4q^4-q^3+3q^2+1)\{875^232\}$
$[-201] - q^6(q^2+q+1)(q^{16}+q^{15}+4q^{14}+2q^{13}+6q^{12}+3q^{11}+9q^{10}$
$+3q^9+9q^8+3q^7+9q^6+3q^5+6q^4+2q^3+4q^2+q+1)\{7^2643^2\}$

$$[-162] - q^6(q^4+1)(q^2-q+1)^3(q^2+q+1)^4(\{8754^22\}+\{86^2532\})$$
$$[-108] - q^6(q^4+1)^2(q^2-q+1)^2(q^2+q+1)^3(\{86^243^2\}+\{7^264^22\})$$
$$[-288] - q^6(q^4+1)^2(q^2+q+1)^2(q^2+1)^3(\{96543^2\}+\{7^26541\})$$
$$[-180] - q^6(q^2+1)(q^4+1)(q^2+q+1)^2(q^4+q^3+q^2+q+1)(q^4-q^3+q^2-q+1)\{76^332\}$$
$$[945] + q^5(q^4+q^3+q^2+q+1)(q^6+q^3+1)(q^6+q^5+q^4+q^3+q^2+q+1)(q^2+q+1)^2(\{10\ 4^5\}+\{6^5\})$$
$$[720] + q^5(q^4+q^3+q^2+q+1)(q^2+q+1)^2(q^4+1)^2(q^2+1)^2(\{964^33\}+\{76^341\})$$
$$[675] + q^5(q^4+q^3+q^2+q+1)^2(q^4-q^3+q^2-q+1)(q^2+q+1)^3(q^2-q+1)(\{95^24^23\}+\{76^25^21\})$$
$$[801] + q^5(q^2+q+1)^2(q^{16}+q^{15}+4q^{14}+2q^{13}+9q^{12}+3q^{11}+13q^{10}$$
$$+4q^9+15q^8+4q^7+13q^6+3q^5+9q^4+2q^3+4q^2+q+1)(\{87543^2\}+\{7^26532\})$$
$$[666] + q^5(q^4+1)(q^2+q+1)^2(q^{10}+2q^9+4q^8+3q^7+6q^6+5q^5+6q^4+3q^3+4q^2+2q+1)\{86^24^22\}$$
$$[567] + q^5(q^2+q+1)^3(q^2-q+1)(q^{12}+3q^{10}+q^9+3q^8+5q^6+3q^4+q^3+3q^2+1)\{865^242\}$$
$$[324] + q^5(q^4+1)^2(q^2-q+1)^2(q^2+q+1)^4(\{865^23^2\}+\{7^25^242\})$$
$$[405] + q^5(q^4+q^3+q^2+q+1)(q^2+q+1)^4(q^2-q+1)^2(q^4-q^2+1)(\{864^4\}+\{6^442\})$$
$$[450] + q^5(q^4+q^3+q^2+q+1)^2(q^4-q^3+q^2-q+1)(q^2+q+1)^2)(q^4+1)\{85^42\}$$
$$[270] + q^5(q^4+q^3+q^2+q+1)(q^4-q^3+q^2-q+1)(q^4+1)(q^2-q+1)(q^2+q+1)^3(\{7^254^23\}+\{76^253^2\})$$
$$[345] + q^5(q^4+q^3+q^2+q+1)(q^2+q+1)(q^{14}+3q^{12}+4q^{10}-q^9+5q^8-q^7+5q^6-q^5+4q^4+3q^2+1)\{76^24^23\}$$
$$[225] + q^5(q^4-q^3+q^2-q+1)(q^4-q^2+1)(q^2+q+1)^2(q^4+q^3+q^2+q+1)\{6^34^3\}$$
$$[-1575] - q^4(q^4+q^3+q^2+q+1)^2(q^4-q^3+q^2-q+1)(q^2+q+1)^2(q^6+q^5+q^4+q^3+q^2+q+1)(\{954^4\}+\{6^451\})$$
$$[-900] - q^4(q^4+q^3+q^2+q+1)^2(q^4-q^3+q^2-q+1)(q^2+q+1)^2(q^2+1)(q^4+1)(\{85^343\}+\{765^32\})$$
$$[-1215] - q^4(q^4-q^3+q^2-q+1)(q^4+q^3+q^2+q+1)(q^2+q+1)^5(q^2-q+1)^2(\{8654^23\}+\{76^2542\})$$
$$[-1422] - q^4(q^4+1)(q^2+q+1)^2(q^{14}+2q^{13}+4q^{12}+4q^{11}+8q^{10}+7q^9+10q^8+7q^7+10q^6+7q^5+8q^4+4q^3+4q^2+2q+1)$$
$$\{7^25^23^2\}$$
$$[-720] - q^4(q^4+q^3+q^2+q+1)(q^2+q+1)^2(q^4+1)(q^2+1)^3(q^4-q^2+1)(\{7654^3\}+\{6^3543\})$$
$$[2250] + q^3(q^4-q^3+q^2-q+1)(q^4+q^3+q^2+q+1)^3(q^4+1)(q^2+q+1)^2(\{85^24^3\}+\{6^35^22\})$$
$$[1800] + q^3(q^4-q^3+q^2-q+1)(q^4+q^3+q^2+q+1)^2(q^4+1)(q^2+q+1)^2(q^2+1)^2\{765^243\}$$
$$[1050] + q^3(q^6+q^5+q^4+q^3+q^2+q+1)(q^4+q^3+q^2+q+1)^2(q^2+q+1)(q^4+1)(q^4-q^3+q^2-q+1)\{75^43\}$$
$$[945] + q^3(q^6+q^5+q^4+q^3+q^2+q+1)(q^4+q^3+q^2+q+1)(q^4-q^2+1)(q^2+q+1)^3(q^2-q+1)^2\{6^25^24^2\}$$
$$[-3150] - q^2(q^6+q^5+q^4+q^3+q^2+q+1)(q^4-q^3+q^2-q+1)(q^4+1)(q^2+q+1)^2(q^4+q^3+q^2+q+1)^2$$
$$(\{75^34^2\}+\{6^25^33\})$$
$$[4725] + q(q^6+q^5+q^4+q^3+q^2+q+1)(q^6+q^3+1)(q^4+q^3+q^2+q+1)^2(q^2+q+1)^2\{65^44\}$$
$$[-10395] - (q^4+q^3+q^2+q+1)(q^6+q^3+1)(q^{10}+q^9+q^8+q^7+q^6+q^5+q^4+q^3+q^2+q+1)$$
$$(q^6+q^5+q^4+q^3+q^2+q+1)(q^2+q+1)^2\{5^6\}$$