

Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{1,1}$	1	21	-40	$uv^2w^3z^5 + u + v + w + \frac{1}{u^2v^3w^4z^5}$
$X_{1,2}$	1	101	-200	$u + v + w + z + \frac{1}{vwzu}$
$X_{1,3}$	1	103	-204	$u + v + w + z + \frac{1}{vwzu^2}$
$X_{1,4}$	1	145	-288	$u + v + w + z + \frac{1}{v^2wzu^5}$
$X_{1,5}$	1	149	-296	$u + v + w + z + \frac{1}{vwzu^4}$

Table 1: The 5 cyclic (i.e.,  $h^{1,1}(X) = 1$ ) hypersurface Calabi-Yau three-folds in toric four-folds.  $X_{1,2}$  is the famous quintic. For each manifold, the Hodge numbers  $h^{1,1}$  and  $h^{2,1}$ , the Euler number  $\chi$ , as well the Newton polynomial, an equivalent representation of the defining dual polytope, are given.

Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{2,1}$	2	29	-54	$zu^3 + v + w^2z + \frac{1}{vwz} + \frac{1}{vw^2z} + \frac{vw}{u^3}$
$X_{2,2}$	2	38	-72	$\frac{u^9}{v^6w^4z^7} + v + w + z + \frac{vwz^2}{u^3}$
$X_{2,3}$	2	74	-144	$\frac{vwu^3}{z} + v + w + z + \frac{1}{v^2wu^2}$
$X_{2,4}$	2	74	-144	$\frac{wzu^3}{v} + \frac{u}{v} + v + w + z + \frac{v}{wzu^2}$
$X_{2,5}$	2	83	-162	$u + v + w + z + \frac{1}{vw} + \frac{1}{zu}$
$X_{2,6}$	2	84	-164	$u + v + vw + w + z + \frac{1}{vw^2zu}$
$X_{2,7}$	2	86	-168	$zw^2 + u + v + z + \frac{1}{wvzw}$
$X_{2,8}$	2	86	-168	$u + v + w + z + \frac{vw}{z} + \frac{1}{vwu}$
$X_{2,9}$	2	86	-168	$u + v + w + z + \frac{1}{w} + \frac{1}{vzu}$
$X_{2,10}$	2	86	-168	$u + v + w + \frac{z}{vw} + z + \frac{1}{zu}$
$X_{2,11}$	2	86	-168	$u + v + w + z + \frac{1}{vw} + \frac{vw}{zu}$
$X_{2,12}$	2	86	-168	$u + v + w + \frac{z}{vw} + z + \frac{vw}{z^2u}$
$X_{2,13}$	2	86	-168	$u + v + w + z + \frac{w}{z} + \frac{1}{vwu}$
$X_{2,14}$	2	86	-168	$\frac{z^2}{vw} + z + u + v + w + \frac{vw}{uz^3}$
$X_{2,15}$	2	86	-168	$\frac{wu^2}{vz} + v + w + z + \frac{1}{z} + \frac{z}{wu}$
$X_{2,16}$	2	90	-176	$u + v + w + z + \frac{1}{z} + \frac{z}{vwu}$
$X_{2,17}$	2	92	-180	$\frac{vw^2}{uz} + w + u + v + z + \frac{1}{vw}$
$X_{2,18}$	2	95	-186	$\frac{z^2}{vw} + z + u + v + w + \frac{1}{uz}$
$X_{2,19}$	2	102	-200	$\frac{z^2}{uvw} + z + u + v + w + \frac{1}{z}$
$X_{2,20}$	2	106	-208	$\frac{v^3}{u^2wz} + u^2v + w + z + \frac{1}{v}$
$X_{2,21}$	2	106	-208	$\frac{z^3}{uvw^5} + z + u + v + w + \frac{w}{z}$
$X_{2,22}$	2	106	-208	$\frac{z^3}{uvw^2} + z + u + v + w + \frac{1}{z}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{2,23}$	2	116	-228	$\frac{zu^2}{vw} + v + w + z + \frac{vw}{zu^3} + \frac{v^2w^2}{z^3u^4}$
$X_{2,24}$	2	120	-236	$\frac{w^3v^4}{u^5z} + v + u + w + z + \frac{u}{wv}$
$X_{2,25}$	2	122	-240	$wv^2 + u + w + z + \frac{1}{uw^4zv^7}$
$X_{2,26}$	2	122	-240	$\frac{z^3}{wv^4w} + z + u + v + w + \frac{v}{z}$
$X_{2,27}$	2	122	-240	$\frac{z^3}{uvw} + z + u + v + w + \frac{1}{z}$
$X_{2,28}$	2	128	-252	$zw^2 + u + v + z + \frac{1}{uv^3zw}$
$X_{2,29}$	2	128	-252	$u + v + w + z + \frac{vw}{z} + \frac{1}{vuw^3}$
$X_{2,30}$	2	128	-252	$\frac{u^3z^3}{vw} + u^2z + z + v + w + \frac{1}{uz}$
$X_{2,31}$	2	128	-252	$\frac{u^2z^5}{v^3w^3} + z + u + v + w + \frac{vw}{uz^2}$
$X_{2,32}$	2	128	-252	$\frac{u^3z^3}{vw^4} + z + u + v + w + \frac{w}{uz}$
$X_{2,33}$	2	132	-260	$\frac{v^2z^3}{uw} + v^2z + z + u + w + \frac{1}{vz}$
$X_{2,34}$	2	132	-260	$\frac{uz^4}{vw^2} + u^2z + z + v + w + \frac{1}{uz}$
$X_{2,35}$	2	144	-284	$\frac{uz^3}{vw} + u^2z + z + v + w + \frac{1}{uz}$
$X_{2,36}$	2	272	-540	$u + v + w + z + \frac{1}{v^9wzu^6}$

Table 2: The 36 Calabi-Yau hypersurfaces in toric four-folds with  $h^{1,1}(X) = 2$ . The Hodge numbers  $h^{1,1}$  and  $h^{2,1}$ , the Euler number  $\chi$ , as well the Newton polynomial, an equivalent representation of the defining dual polytope, are given.  $X_{2,5}$  and  $X_{2,9}$  are, respectively, the bi-degree (3, 3) hypersurface in  $\mathbb{P}^2 \times \mathbb{P}^2$  and the bi-degree (2, 4) hypersurface in  $\mathbb{P}^1 \times \mathbb{P}^3$ .

Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,1}$	3	43	-80	$\frac{z^3u^{12}}{v^{10}w^4} + \frac{u^4}{v^2w} + w + z + \frac{v^3w}{zu^4}$
$X_{3,2}$	3	45	-84	$zu^3 + v + w^2z + \frac{1}{vwz} + \frac{v}{u^3}$
$X_{3,3}$	3	45	-84	$\frac{zu^2}{vw} + \frac{u}{v^2w} + v + w + z + \frac{v^2w}{z^2u^3}$
$X_{3,4}$	3	51	-96	$\frac{wvz^4}{w} + z + u + v + w + \frac{1}{z} + \frac{1}{wvz^2}$
$X_{3,5}$	3	57	-108	$vu^2 + \frac{zu}{w^2} + v + w + z + \frac{w}{vzu^2}$
$X_{3,6}$	3	57	-108	$\frac{wzu^2}{v} + \frac{z^2u}{v} + v + w + z + \frac{v}{wz^3u^2}$
$X_{3,7}$	3	57	-108	$\frac{vwu^3}{z} + v + w + z + \frac{1}{vu} + \frac{1}{wu} + \frac{z}{vwu^2}$
$X_{3,8}$	3	57	-108	$\frac{zu}{v^2w} + \frac{vwu}{z} + u + v + w + z + \frac{1}{vwu}$
$X_{3,9}$	3	59	-112	$\frac{z^2}{vw} + z + u + v + w + \frac{1}{uz^2}$
$X_{3,10}$	3	59	-112	$v^2wu^4 + \frac{v^3w^2u^4}{z} + w + \frac{z}{v^2} + z + \frac{1}{vwu^2}$
$X_{3,11}$	3	59	-112	$wu^2 + \frac{z^2}{v^3w^2} + v + \frac{z}{v^2w^2} + z + \frac{vw}{z} + \frac{z^2}{v^2w^3u^2}$
$X_{3,12}$	3	63	-120	$vu^2 + w + z + \frac{1}{v} + \frac{1}{wz^2u^2}$
$X_{3,13}$	3	63	-120	$\frac{uz^4}{v^2w^2} + z + u + v + w + \frac{vw}{uz^3}$
$X_{3,14}$	3	63	-120	$zw^2 + u + v + z + \frac{1}{uzw} + \frac{1}{vzw}$
$X_{3,15}$	3	63	-120	$\frac{v^2wu^3}{z^2} + vu^2 + v + w + z + \frac{z}{v^2wu^3}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,16}$	3	63	-120	$\frac{uz^2}{vw} + z + u + v + w + \frac{1}{uz} + \frac{vw}{uz^3}$
$X_{3,17}$	3	63	-120	$\frac{uvz^3}{w} + z + u + v + w + \frac{1}{uwz} + \frac{1}{z}$
$X_{3,18}$	3	65	-124	$u + v + w + z + \frac{1}{v^2z} + \frac{v}{wu}$
$X_{3,19}$	3	66	-126	$\frac{w^2}{vz} + w + u + uv + v + z + \frac{1}{uvw}$
$X_{3,20}$	3	66	-126	$\frac{z^4}{uv^3w^2} + \frac{z^2}{vw} + z + u + v + w + \frac{uv^3w^2}{z^5}$
$X_{3,21}$	3	67	-128	$\frac{v^2}{w} + u + w + z + \frac{u}{v} + \frac{w}{u^2zv}$
$X_{3,22}$	3	67	-128	$u + v + w + \frac{z}{v} + \frac{z}{w} + z + \frac{w}{vz^2u}$
$X_{3,23}$	3	67	-128	$\frac{u}{z} + u + v + w + z + \frac{1}{z} + \frac{z}{vuw^2}$
$X_{3,24}$	3	69	-132	$zw^3 + u + v + z + \frac{1}{uwzw}$
$X_{3,25}$	3	69	-132	$\frac{vw^2}{z^2} + w + u + v + z + \frac{z}{uvw^2}$
$X_{3,26}$	3	69	-132	$\frac{wv^2}{uz} + v + u + w + z + \frac{1}{wv^2}$
$X_{3,27}$	3	69	-132	$\frac{uz^2}{v^2w^2} + z + u + v + w + \frac{vw}{uz^2}$
$X_{3,28}$	3	69	-132	$wv^2 + v + u + w + z + \frac{1}{uwzv^2}$
$X_{3,29}$	3	69	-132	$u + v + w + z + \frac{1}{vw^2} + \frac{vw}{zu^2}$
$X_{3,30}$	3	69	-132	$zu^2 + v + vw + w + z + \frac{1}{vwzu}$
$X_{3,31}$	3	69	-132	$\frac{uz^3}{vw^2} + z + u + v + w + \frac{vw^2}{u^2z^4}$
$X_{3,32}$	3	69	-132	$\frac{wu}{z} + u + v + w + z + \frac{vw}{z} + \frac{1}{vwu}$
$X_{3,33}$	3	69	-132	$u + v + w + z + \frac{vw}{z} + \frac{w}{z} + \frac{z}{vw^2u}$
$X_{3,34}$	3	69	-132	$\frac{wvz^2}{w} + z + u + v + w + \frac{1}{wvz} + \frac{1}{z}$
$X_{3,35}$	3	69	-132	$\frac{zu}{vw} + u + v + w + z + \frac{1}{zu} + \frac{vw}{z^2u}$
$X_{3,36}$	3	69	-132	$u + v + w + z + \frac{1}{vw} + \frac{w}{z} + \frac{1}{wu}$
$X_{3,37}$	3	69	-132	$\frac{uvw^2}{z^3} + w + u + v + z + \frac{z}{uw} + \frac{z}{vw}$
$X_{3,38}$	3	69	-132	$zu + u + v + w + z + \frac{v}{wz} + \frac{1}{vzu}$
$X_{3,39}$	3	69	-132	$\frac{z^2}{vw} + \frac{z}{w} + z + u + v + w + \frac{1}{wvz}$
$X_{3,40}$	3	69	-132	$\frac{u}{vw} + u + v + w + z + \frac{1}{w} + \frac{vw}{zu^2}$
$X_{3,41}$	3	69	-132	$\frac{vwu^2}{z} + v + w + z + \frac{1}{w} + \frac{1}{z} + \frac{z}{vu}$
$X_{3,42}$	3	71	-136	$u + v + w + z + \frac{1}{vz} + \frac{1}{z} + \frac{z}{wu}$
$X_{3,43}$	3	71	-136	$\frac{u}{z} + u + v + w + z + \frac{1}{vz} + \frac{z}{wu}$
$X_{3,44}$	3	71	-136	$\frac{z^2}{uv} + z + u + v + w + \frac{1}{wz} + \frac{1}{z}$
$X_{3,45}$	3	72	-138	$vu + u + v + w + z + \frac{w}{z} + \frac{1}{vwu}$
$X_{3,46}$	3	72	-138	$\frac{vu}{w} + u + v + w + z + \frac{1}{vu} + \frac{1}{zu}$
$X_{3,47}$	3	72	-138	$vu + u + v + w + z + \frac{1}{vw} + \frac{1}{vzu}$
$X_{3,48}$	3	73	-140	$zw^2 + u + v + z + \frac{v}{uz} + \frac{1}{vw}$
$X_{3,49}$	3	73	-140	$\frac{wu}{vz^2} + u + v + w + \frac{vz}{w} + z + \frac{z}{wu}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,50}$	3	73	-140	$u + v + w + z + \frac{w}{vz} + \frac{1}{z} + \frac{z}{wu}$
$X_{3,51}$	3	73	-140	$u + v + w + z + \frac{z}{w} + z + \frac{1}{v} + \frac{v}{wzu}$
$X_{3,52}$	3	73	-140	$u + v + w + z + \frac{1}{vw} + \frac{1}{w} + \frac{w}{vzu}$
$X_{3,53}$	3	73	-140	$zu + u + v + w + z + \frac{w}{vz} + \frac{1}{wu}$
$X_{3,54}$	3	73	-140	$\frac{uz^3}{v^2w} + z + u + v + w + \frac{v}{uz} + \frac{1}{z}$
$X_{3,55}$	3	75	-144	$wv^3 + u + w + z + \frac{1}{uw^2zv^5}$
$X_{3,56}$	3	75	-144	$w^2zu^2 + zu^2 + \frac{u^2}{v^2w^3z} + v + \frac{w}{vu^2}$
$X_{3,57}$	3	75	-144	$u + v + w + z + \frac{v}{z^2} + \frac{z}{vuw}$
$X_{3,58}$	3	75	-144	$\frac{v^2}{z} + \frac{v}{uz} + u + w + z + \frac{1}{wv}$
$X_{3,59}$	3	75	-144	$wv^2 + \frac{wv^2}{z} + u + w + z + \frac{z}{uw^2v^3}$
$X_{3,60}$	3	75	-144	$\frac{z^3}{wv^2w} + z + u + v + w + \frac{v}{z^2}$
$X_{3,61}$	3	75	-144	$wv^2 + u + w + z + \frac{1}{z} + \frac{1}{uvw}$
$X_{3,62}$	3	75	-144	$zv^2 + u + w + z + \frac{1}{uw} + \frac{1}{zv}$
$X_{3,63}$	3	75	-144	$wu^2 + v^2z + z + \frac{1}{vw} + \frac{vw^2}{z} + \frac{v^2z^2}{wu^2}$
$X_{3,64}$	3	75	-144	$u + v + w + z + \frac{1}{v} + \frac{w}{vz} + \frac{1}{wu}$
$X_{3,65}$	3	75	-144	$\frac{vu}{z} + u + v + w + z + \frac{1}{w} + \frac{1}{vu}$
$X_{3,66}$	3	75	-144	$u + v + w + z + \frac{1}{w} + \frac{v}{z} + \frac{1}{vu}$
$X_{3,67}$	3	75	-144	$\frac{vu}{wz^2} + u + v + w + z + \frac{1}{w} + \frac{wz}{vu}$
$X_{3,68}$	3	75	-144	$\frac{vzu}{w} + u + v + w + z + \frac{1}{z} + \frac{1}{vu}$
$X_{3,69}$	3	75	-144	$u + v + w + z + \frac{v}{z} + \frac{1}{z} + \frac{z}{vuw}$
$X_{3,70}$	3	75	-144	$u + v + w + z + \frac{1}{w} + \frac{w}{z} + \frac{1}{vu}$
$X_{3,71}$	3	75	-144	$u + v + w + z + \frac{1}{wz} + \frac{1}{z} + \frac{1}{vuw}$
$X_{3,72}$	3	75	-144	$\frac{u}{z} + \frac{wu}{vz^2} + u + v + w + z + \frac{z}{wu}$
$X_{3,73}$	3	75	-144	$u + v + w + z + \frac{1}{vw} + \frac{w}{z} + \frac{vw}{zu}$
$X_{3,74}$	3	75	-144	$\frac{vu}{z} + u + v + w + \frac{z}{vw} + z + \frac{1}{vu}$
$X_{3,75}$	3	75	-144	$u + v + w + wz + z + \frac{v}{z} + \frac{1}{vuw}$
$X_{3,76}$	3	75	-144	$zu + \frac{vu}{wz^2} + u + v + w + z + \frac{z}{vu}$
$X_{3,77}$	3	75	-144	$u + v + w + \frac{z}{v} + z + \frac{v}{w} + \frac{w}{vzu}$
$X_{3,78}$	3	75	-144	$u + v + w + z + \frac{1}{v} + \frac{1}{w} + \frac{1}{zu}$
$X_{3,79}$	3	75	-144	$\frac{z^2}{wv} + z + u + v + w + \frac{1}{z} + \frac{wv}{wz^2}$
$X_{3,80}$	3	75	-144	$\frac{z^2}{wv} + z + u + v + w + \frac{1}{wv} + \frac{u}{z}$
$X_{3,81}$	3	76	-146	$\frac{w^2}{vz} + w + u + v + z + \frac{z}{w} + \frac{1}{wv}$
$X_{3,82}$	3	77	-148	$\frac{z^3}{uvw^5} + z + u + v + \frac{w^2}{z} + \frac{w}{z}$
$X_{3,83}$	3	77	-148	$\frac{zu^2}{wv} + \frac{zu}{w} + v + w + z + \frac{1}{z} + \frac{1}{u}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,84}$	3	77	-148	$\frac{uv^2}{wz} + v + u + w + z + \frac{z}{uv} + \frac{1}{uv}$
$X_{3,85}$	3	77	-148	$u + v + w + z + \frac{1}{v} + \frac{1}{z} + \frac{z}{wu}$
$X_{3,86}$	3	77	-148	$\frac{z^3}{uvw^2} + z + u + v + w + \frac{w}{z} + \frac{1}{z}$
$X_{3,87}$	3	77	-148	$\frac{z^3}{uv^2w} + z + u + v + w + \frac{1}{w} + \frac{1}{z}$
$X_{3,88}$	3	78	-150	$vu + u + v + w + z + \frac{v}{w} + \frac{1}{vzu}$
$X_{3,89}$	3	78	-150	$\frac{vu}{w} + u + v + w + z + \frac{v}{z} + \frac{1}{vu}$
$X_{3,90}$	3	78	-150	$\frac{uvw^2}{z^2} + \frac{uvw}{z} + w + u + v + z + \frac{z}{uvw^2}$
$X_{3,91}$	3	79	-152	$zv^2 + \frac{v}{uw} + u + w + z + \frac{1}{zv}$
$X_{3,92}$	3	79	-152	$vu + u + v + w + z + \frac{1}{z} + \frac{z}{vuw}$
$X_{3,93}$	3	79	-152	$u + v + w + z + \frac{1}{v} + \frac{1}{w} + \frac{w}{vzu}$
$X_{3,94}$	3	79	-152	$\frac{z^2}{vw} + z + u + v + w + \frac{v}{uz} + \frac{1}{z}$
$X_{3,95}$	3	81	-156	$\frac{uv^2}{wz} + \frac{v^2}{z} + u + w + z + \frac{1}{uv}$
$X_{3,96}$	3	81	-156	$zu^2 + v + w + z + \frac{1}{vw} + \frac{vw}{zu}$
$X_{3,97}$	3	81	-156	$wv^2 + u + w + z + \frac{1}{z} + \frac{z}{uvw}$
$X_{3,98}$	3	81	-156	$\frac{z^2}{vw^2} + z + u + v + w + \frac{1}{uz}$
$X_{3,99}$	3	81	-156	$u + v + w + \frac{z}{vw} + z + \frac{1}{z} + \frac{z}{wu}$
$X_{3,100}$	3	81	-156	$u + v + w + z + \frac{1}{vw} + \frac{1}{w} + \frac{v}{zu}$
$X_{3,101}$	3	81	-156	$\frac{z^2}{vw} + z + u + v + w + \frac{u}{w} + \frac{w}{uz}$
$X_{3,102}$	3	81	-156	$\frac{vu}{wz} + u + v + w + \frac{z}{w} + z + \frac{w}{vu}$
$X_{3,103}$	3	81	-156	$vu + \frac{vu}{w} + u + v + w + z + \frac{1}{vzu}$
$X_{3,104}$	3	81	-156	$\frac{vu}{w} + \frac{vu}{z} + u + v + w + z + \frac{1}{vu}$
$X_{3,105}$	3	81	-156	$\frac{uv^2}{wz} + \frac{uv}{z} + v + u + w + z + \frac{1}{uv}$
$X_{3,106}$	3	83	-160	$vu^2 + w + z + \frac{1}{v} + \frac{1}{wz^4u^2}$
$X_{3,107}$	3	83	-160	$\frac{z^2}{uvw} + z + u + v + w + \frac{w}{z} + \frac{1}{z}$
$X_{3,108}$	3	83	-160	$u + v + w + z + \frac{1}{w} + \frac{w}{z} + \frac{w}{vu}$
$X_{3,109}$	3	83	-160	$\frac{z^2}{uv} + z + u + v + w + \frac{1}{w} + \frac{1}{z}$
$X_{3,110}$	3	84	-162	$\frac{uvw^2}{z^3} + w + u + v + z + \frac{z}{w} + \frac{z^2}{uvw^2}$
$X_{3,111}$	3	84	-162	$\frac{z^2}{vw} + \frac{z}{w} + z + u + v + w + \frac{1}{uz}$
$X_{3,112}$	3	85	-164	$\frac{z^2}{uvw} + z + u + v + w + \frac{uv}{z} + \frac{1}{z}$
$X_{3,113}$	3	85	-164	$\frac{w^2}{uvz} + \frac{zw}{v} + w + u + v + z + \frac{1}{w}$
$X_{3,114}$	3	85	-164	$u + v + w + \frac{z}{w} + z + \frac{1}{z} + \frac{z}{vw^2u}$
$X_{3,115}$	3	85	-164	$\frac{z^2}{uvw} + z + u + v + w + \frac{1}{w} + \frac{1}{z}$
$X_{3,116}$	3	87	-168	$\frac{w^2zu^6}{v^2} + \frac{u}{v} + v + w + z + \frac{v^3}{wzu^5}$
$X_{3,117}$	3	87	-168	$\frac{w^2v^2}{z} + \frac{wv^2}{z} + u + w + z + \frac{1}{uvw}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,118}$	3	87	-168	$wv^2 + \frac{wv}{z} + u + w + z + \frac{1}{uvw}$
$X_{3,119}$	3	87	-168	$\frac{z^3}{v^2w^2} + z + u + v + w + \frac{vw}{uz^2}$
$X_{3,120}$	3	87	-168	$\frac{z^2}{vw} + \frac{z}{uw} + z + u + v + w + \frac{1}{z}$
$X_{3,121}$	3	87	-168	$\frac{v^2wu^3}{z^2} + vu^2 + \frac{v^2u^2}{w} + v + w + z + \frac{1}{vu}$
$X_{3,122}$	3	89	-172	$wv^2 + \frac{wv}{uz} + u + w + z + \frac{1}{wv}$
$X_{3,123}$	3	89	-172	$\frac{w^2u^3}{v^2z} + wu^2 + v + w + z + \frac{1}{wu}$
$X_{3,124}$	3	89	-172	$\frac{wu^6}{v^3z} + wu^2 + \frac{u^2}{v^2w} + v + z + \frac{v}{u^2}$
$X_{3,125}$	3	89	-172	$\frac{vz^2}{uw} + \frac{z}{vw} + z + u + v + w + \frac{1}{z}$
$X_{3,126}$	3	89	-172	$\frac{z^3}{uv^5w} + \frac{z^2}{v^2w} + z + u + v + w + \frac{v}{z}$
$X_{3,127}$	3	91	-176	$\frac{z^2}{uvw} + z + u + uv + v + w + \frac{1}{z}$
$X_{3,128}$	3	91	-176	$\frac{z^2}{uvw} + \frac{z}{w} + z + u + v + w + \frac{1}{z}$
$X_{3,129}$	3	91	-176	$vwu^2 + v + w^2z + z + \frac{1}{wz} + \frac{w^2z^2}{vu} + \frac{wz^2}{vu}$
$X_{3,130}$	3	93	-180	$\frac{v^2}{wz} + \frac{v^2}{z} + u + w + z + \frac{1}{v}$
$X_{3,131}$	3	93	-180	$\frac{z^3u^7}{vw^8} + u + v + w + z + \frac{u^2}{zu^2}$
$X_{3,132}$	3	93	-180	$\frac{z^2}{uvw^2} + \frac{z}{w} + z + u + v + w + \frac{1}{z}$
$X_{3,133}$	3	93	-180	$\frac{z^3}{wv^2} + z + u + uv + v + w + \frac{1}{z}$
$X_{3,134}$	3	93	-180	$\frac{z^3}{wv^4} + z + u + v + \frac{w}{v} + w + \frac{v}{z}$
$X_{3,135}$	3	95	-184	$vu^2 + v + w + z + \frac{z}{v^2wu^3} + \frac{1}{v^3zu^5}$
$X_{3,136}$	3	95	-184	$\frac{z^2}{uw} + \frac{z}{v} + z + u + v + w + \frac{1}{z}$
$X_{3,137}$	3	95	-184	$\frac{z^3}{uvw^2} + \frac{z^2}{vw} + z + u + v + w + \frac{1}{z}$
$X_{3,138}$	3	95	-184	$\frac{z^3}{uvw^5} + \frac{z^2}{vw^3} + z + u + v + w + \frac{w}{z}$
$X_{3,139}$	3	99	-192	$zw^3 + u + v + z + \frac{1}{wv^3zw}$
$X_{3,140}$	3	99	-192	$\frac{v^4}{u^2wz^2} + u^2v + w + z + \frac{1}{v}$
$X_{3,141}$	3	99	-192	$wv^2 + w + u + v + z + \frac{1}{wvzw^4}$
$X_{3,142}$	3	99	-192	$\frac{w^3v^6}{u^4z^4} + v + u + w + z + \frac{uz}{wv^2}$
$X_{3,143}$	3	99	-192	$\frac{u^3z^3}{vw^4} + z + v + w + \frac{u^2}{w} + \frac{w}{uz}$
$X_{3,144}$	3	99	-192	$\frac{vw^2}{z^2} + w + u + v + z + \frac{z}{u^3vw^2}$
$X_{3,145}$	3	99	-192	$vu^2 + v + w + z + \frac{1}{v^3wu^5} + \frac{1}{v^3zu^5}$
$X_{3,146}$	3	99	-192	$\frac{z^4}{u^2vw^2} + z + u + v + w + \frac{1}{z}$
$X_{3,147}$	3	99	-192	$\frac{z^3}{wv^2} + z + u + v + w + \frac{vw^2}{u^2z^4}$
$X_{3,148}$	3	99	-192	$\frac{u^6}{v^2w^2z} + v + w + z + \frac{vw}{u} + \frac{1}{u}$
$X_{3,149}$	3	99	-192	$wv^2 + u + w + uz + z + \frac{1}{u^3wzv}$
$X_{3,150}$	3	99	-192	$u + v + w + z + \frac{vw}{z} + \frac{1}{vwu^3} + \frac{1}{vzu^3}$
$X_{3,151}$	3	99	-192	$\frac{z^2}{u^3v} + \frac{z^2}{u^3w} + z + u + v + w + \frac{u}{z}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,152}$	3	99	-192	$\frac{z^3}{uw^4w} + z + u + v + w + \frac{v}{z} + \frac{vw}{z}$
$X_{3,153}$	3	99	-192	$\frac{v^3z^4}{uw^5} + z + u + v + w + \frac{uw}{z} + \frac{w}{vz}$
$X_{3,154}$	3	99	-192	$\frac{w^3}{uvz} + w + u + v + z + \frac{z}{w} + \frac{1}{w}$
$X_{3,155}$	3	99	-192	$\frac{z^2}{uw} + \frac{z^2}{vw} + z + u + v + w + \frac{1}{z}$
$X_{3,156}$	3	99	-192	$\frac{uz^4}{v^2w} + u^2z + z + uv + v + w + \frac{1}{uz}$
$X_{3,157}$	3	99	-192	$\frac{v^3}{uz} + \frac{v^2}{w} + u + w + z + \frac{u^2z}{wv} + \frac{1}{v}$
$X_{3,158}$	3	99	-192	$\frac{vw^2u^3}{z^5} + \frac{v^2wu^3}{z^5} + u + v + w + z + \frac{z^3}{vwu^2}$
$X_{3,159}$	3	103	-200	$\frac{w^2z^2v^4}{u^7} + v + w + z + \frac{u^2}{z} + \frac{u^3}{wzv^2}$
$X_{3,160}$	3	103	-200	$\frac{u^5z^5}{v^3w} + \frac{u^2wz}{v} + z + v + w + \frac{v}{u^2z^2}$
$X_{3,161}$	3	103	-200	$\frac{u^2w^2v^5}{z^8} + v + u + w + z + \frac{z^3}{uvw^2}$
$X_{3,162}$	3	103	-200	$\frac{u^2v^3}{wz} + u^2v + \frac{uzv}{w} + v + w + z + \frac{1}{uv}$
$X_{3,163}$	3	103	-200	$\frac{z^3}{uvw^4} + z + u + v + w + \frac{uvw}{z} + \frac{w}{z}$
$X_{3,164}$	3	103	-200	$\frac{z^3}{uvw} + z + u + v + w + \frac{uv}{z} + \frac{1}{z}$
$X_{3,165}$	3	103	-200	$\frac{w^2z^5}{u^3v^3} + \frac{w^2z^3}{u^2v^2} + z + u + v + w + \frac{uv}{wz^2}$
$X_{3,166}$	3	103	-200	$\frac{zw^5}{u^2v^3} + \frac{z^2w^3}{u^2v^2} + w + u + v + z + \frac{uv}{zw^2}$
$X_{3,167}$	3	105	-204	$\frac{v^5}{u^2wz^3} + u^2v + w + z + \frac{1}{v}$
$X_{3,168}$	3	105	-204	$\frac{zu^4}{v^3w} + \frac{u^3}{vz} + v + w + z + \frac{v}{u^2}$
$X_{3,169}$	3	105	-204	$zv^3 + \frac{z^3v^2}{uw} + u + w + z + \frac{1}{zv}$
$X_{3,170}$	3	105	-204	$\frac{w^3}{uvz^2} + \frac{w^2}{z} + u + v + z + \frac{1}{w}$
$X_{3,171}$	3	105	-204	$zu^3 + \frac{z^3u}{vw} + v + w + z + \frac{1}{zu}$
$X_{3,172}$	3	105	-204	$\frac{z^2v^5}{uw^2} + zv^2 + u + w + z + \frac{1}{zv}$
$X_{3,173}$	3	105	-204	$\frac{z^3}{uvw^4} + \frac{z^2}{vw} + z + u + v + w + \frac{w}{z}$
$X_{3,174}$	3	105	-204	$\frac{z^3}{uvw^2} + \frac{z}{w} + z + u + v + w + \frac{1}{z}$
$X_{3,175}$	3	105	-204	$\frac{z^3}{uvw} + \frac{z}{w} + z + u + v + w + \frac{1}{z}$
$X_{3,176}$	3	105	-204	$\frac{w^5}{wz^2} + \frac{w^2}{z} + u + v + z + \frac{z}{w} + \frac{1}{w}$
$X_{3,177}$	3	105	-204	$\frac{z^3}{uvw^4} + \frac{z}{w^2} + z + u + v + w + \frac{w}{z}$
$X_{3,178}$	3	105	-204	$\frac{w^3}{wz} + w + u + v + z + \frac{v}{z} + \frac{z^2}{v^2w}$
$X_{3,179}$	3	107	-208	$wv^2 + \frac{w^2v^2}{uz} + u + w + z + \frac{1}{wv}$
$X_{3,180}$	3	107	-208	$\frac{v^2u^5}{w} + \frac{v^2u^4}{z} + v + w + z + \frac{1}{vu^2}$
$X_{3,181}$	3	107	-208	$\frac{z^2}{u^3v} + \frac{z^2}{u^2w} + z + u + v + w + \frac{u}{z}$
$X_{3,182}$	3	107	-208	$\frac{u^3}{vw} + \frac{u^2}{w} + \frac{wu}{z} + v + w + z + \frac{1}{u}$
$X_{3,183}$	3	111	-216	$\frac{w^3v^6}{uz} + wv^3 + u + w + z + \frac{1}{wv^2}$
$X_{3,184}$	3	111	-216	$\frac{u^2z^3}{v^3w} + z + v + w + \frac{u^2}{v} + \frac{v}{uz}$
$X_{3,185}$	3	111	-216	$zw^2 + u + v + z + \frac{v}{uz} + \frac{u^2z^2}{v^3w}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,186}$	3	111	-216	$\frac{v^5 w^5}{u^3 z^6} + w + u + v + z + \frac{uz^2}{v^2 w^2}$
$X_{3,187}$	3	111	-216	$\frac{z^2 v^3}{uw} + zv^2 + u + w + z + \frac{1}{zv}$
$X_{3,188}$	3	111	-216	$\frac{u^2 z^2}{v^3 w^3} + z + u + v + w + \frac{vw}{uz}$
$X_{3,189}$	3	111	-216	$\frac{u^3 z^3}{vw} + z + u + v + w + \frac{1}{uz}$
$X_{3,190}$	3	111	-216	$u + v + w + z + \frac{w}{z} + \frac{1}{vwu^3}$
$X_{3,191}$	3	111	-216	$vu^2 + v + w + z + \frac{z}{v^2 w u^3} + \frac{1}{v^2 z u^4}$
$X_{3,192}$	3	111	-216	$\frac{v^3 w^6}{uz^7} + w + u + v + z + \frac{z^2}{vw^2}$
$X_{3,193}$	3	111	-216	$\frac{v^2 z^5}{u^3 w^3} + \frac{vz}{w} + z + u + v + w + \frac{uw}{vz^2}$
$X_{3,194}$	3	111	-216	$\frac{z^2}{u^2 w} + \frac{wz}{u^2 v} + z + u + v + w + \frac{u}{z}$
$X_{3,195}$	3	111	-216	$\frac{w^2 v^3}{uz^3} + \frac{w^2 v^2}{z^3} + v + u + w + z + \frac{z}{wv}$
$X_{3,196}$	3	111	-216	$\frac{v^2 z^3}{uw} + v^2 z + z + u + uv + w + \frac{1}{vz}$
$X_{3,197}$	3	111	-216	$\frac{z^3}{uvw^3} + \frac{z}{w^2} + z + u + v + w + \frac{w}{z}$
$X_{3,198}$	3	111	-216	$\frac{w^2 z^3}{uv^3} + z + u + v + \frac{uw}{v} + w + \frac{v}{wz}$
$X_{3,199}$	3	111	-216	$\frac{vwu^2}{z^3} + \frac{v^2 u}{wz} + u + v + w + z + \frac{z}{vu}$
$X_{3,200}$	3	111	-216	$\frac{v^3 z^3}{uw^4} + z + u + v + \frac{w}{v} + w + \frac{w}{vz}$
$X_{3,201}$	3	111	-216	$\frac{z^2}{u^3 v} + \frac{vz}{w} + z + u + v + w + \frac{u}{z}$
$X_{3,202}$	3	115	-224	$\frac{w^2}{z} + \frac{w}{u^2 vz} + u + v + z + \frac{1}{u^2 w}$
$X_{3,203}$	3	115	-224	$\frac{u^3}{vz} + \frac{u}{vz} + v + w + z + \frac{v^3 z^3}{wu^4}$
$X_{3,204}$	3	115	-224	$wu^2 + w + v^2 z + z + \frac{1}{vz} + \frac{v^2 z^2}{wu}$
$X_{3,205}$	3	115	-224	$vu^2 + \frac{v^2 u^2}{w} + \frac{v^2 u^2}{z} + v + w + z + \frac{1}{vu}$
$X_{3,206}$	3	115	-224	$vu^2 + \frac{v^2 u^2}{w} + \frac{vwu}{z} + v + w + z + \frac{1}{vu}$
$X_{3,207}$	3	115	-224	$\frac{z^2}{uv} + \frac{z^2}{u^3 w} + z + u + v + w + \frac{u}{z}$
$X_{3,208}$	3	115	-224	$\frac{w^2 z^5}{u^3 v^3} + \frac{wz^4}{u^2 v^2} + z + u + v + w + \frac{uw}{wz^2}$
$X_{3,209}$	3	115	-224	$\frac{u^2 v^3}{wz} + \frac{u^2 v^2}{w} + u^2 v + v + w + z + \frac{1}{uv}$
$X_{3,210}$	3	115	-224	$\frac{uw^3}{vz} + u^2 w + \frac{zw}{v} + w + v + z + \frac{1}{uw}$
$X_{3,211}$	3	115	-224	$\frac{zw^4}{u^2 v^2} + \frac{z^2 w^3}{u^2 v^2} + w + u + v + z + \frac{uv}{zw^2}$
$X_{3,212}$	3	119	-232	$\frac{vzu^2}{w} + v + w + z + \frac{vw}{z} + \frac{w^2}{v^3 z^3 u^5}$
$X_{3,213}$	3	119	-232	$\frac{u^3}{vz} + \frac{u^2}{z} + \frac{vu}{w} + v + w + z + \frac{1}{u}$
$X_{3,214}$	3	119	-232	$\frac{uw^3}{vz^2} + \frac{u^2 w}{z^2} + w + u + v + z + \frac{z}{uw}$
$X_{3,215}$	3	119	-232	$\frac{z^2}{u^3 w} + \frac{uwz}{v} + z + u + v + w + \frac{u}{z}$
$X_{3,216}$	3	123	-240	$\frac{u^2 z^4}{vw^2} + u^2 z + z + v + w + \frac{1}{uz}$
$X_{3,217}$	3	123	-240	$\frac{v^4}{uwz^2} + \frac{v^2}{z} + u + w + z + \frac{1}{v}$
$X_{3,218}$	3	123	-240	$wv^2 + \frac{w^2 v^2}{uz^3} + u + w + z + \frac{z}{wv}$
$X_{3,219}$	3	123	-240	$\frac{u^4 v^2 w^4}{z^9} + w + u + v + z + \frac{z^4}{u^2 v w^2}$

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Manifold	$h^{1,1}$	$h^{2,1}$	$\chi$	Newton Polynomial
$X_{3,220}$	3	123	-240	$\frac{z^3 v^4}{uw} + zv^3 + u + w + z + \frac{1}{zv}$
$X_{3,221}$	3	123	-240	$\frac{v^5}{u^3 w} + \frac{v^2}{z} + u + w + z + \frac{u}{v^2}$
$X_{3,222}$	3	123	-240	$\frac{u^3}{vz} + \frac{u^3}{wz} + \frac{u^2}{z} + v + w + z + \frac{1}{u}$
$X_{3,223}$	3	123	-240	$\frac{w^2}{uv} + w + u + v + z + \frac{u}{z} + \frac{z^2}{u^2 w}$
$X_{3,224}$	3	123	-240	$\frac{z^3}{uvw^2} + \frac{z}{w^2} + z + u + v + w + \frac{w}{z}$
$X_{3,225}$	3	127	-248	$\frac{u^2 v^2 w^2}{z^5} + w + u + v + z + \frac{uw}{z} + \frac{z^2}{uvw}$
$X_{3,226}$	3	131	-256	$zu^2 + \frac{zu}{vw} + v + w + z + \frac{v^2 w^2}{z^3 u^3}$
$X_{3,227}$	3	131	-256	$\frac{zu^2}{vw} + zu^2 + v + w + z + \frac{v^2 w^2}{z^3 u^5}$
$X_{3,228}$	3	131	-256	$\frac{wu^2}{z} + \frac{zu}{v} + v + w^2 z + z + \frac{1}{wu}$
$X_{3,229}$	3	131	-256	$\frac{v^5 w^5}{uz^8} + w + u + v + z + \frac{z^3}{v^2 w^2}$
$X_{3,230}$	3	131	-256	$\frac{u^2 v^2 w^4}{z^7} + \frac{uvw}{z^2} + w + u + v + z + \frac{z^3}{uvw^2}$
$X_{3,231}$	3	141	-276	$\frac{z^3 v^5}{uw} + zv^3 + u + w + z + \frac{1}{zv}$
$X_{3,232}$	3	141	-276	$\frac{w^3}{wvz} + \frac{w}{z^2} + w + u + v + z + \frac{z}{w}$
$X_{3,233}$	3	165	-324	$u + v + w + z + \frac{1}{v^6 w z u^3}$
$X_{3,234}$	3	165	-324	$vu^2 + w + z + \frac{1}{v} + \frac{1}{v^3 w z u^{12}}$
$X_{3,235}$	3	165	-324	$\frac{u^3 z^6}{vw} + z + u + v + w + \frac{1}{uz}$
$X_{3,236}$	3	165	-324	$\frac{z^3 u^3}{vw} + zu^3 + v + w + z + \frac{1}{zu^2}$
$X_{3,237}$	3	165	-324	$\frac{z^3}{u^6 vw} + z + u + v + w + \frac{1}{z}$
$X_{3,238}$	3	165	-324	$zu + u + v + w + z + \frac{1}{vwz^6 u^9}$
$X_{3,239}$	3	195	-384	$zu^3 + \frac{z^3 u^2}{vw} + v + w + z + \frac{1}{zu^2}$
$X_{3,240}$	3	231	-456	$\frac{u^3 z^8}{v^9 w} + z + u + v + w + \frac{v}{uz}$
$X_{3,241}$	3	231	-456	$\frac{z^3}{uvw} + \frac{z}{u^3} + z + v + w + \frac{u^2}{z}$
$X_{3,242}$	3	243	-480	$zw^2 + u + v + z + \frac{1}{u^4 v^6 zw}$
$X_{3,243}$	3	243	-480	$\frac{z^3}{u^3 v^2 w^2} + z + v^2 w + w + \frac{v^2 w^2}{z} + \frac{u^2 vw}{z^2}$
$X_{3,244}$	3	243	-480	$\frac{v^3}{wz} + \frac{v^2}{z} + u^2 v + w + z + \frac{1}{u^3 v^2}$

Table 3: The 244 Calabi-Yau hypersurfaces in toric four-folds with  $h^{1,1}(X) = 3$ . The Hodge numbers  $h^{1,1}$  and  $h^{2,1}$ , the Euler number  $\chi$ , as well the Newton polynomial, an equivalent representation of the defining dual polytope, are given.