Let $a := \dfrac{1+\sqrt{3}}{2}$ and $b := \dfrac{1-\sqrt{3}}{2}$. Then the 19 triple points of the B_{12} configuration are as follows.

1. (0,0)
2. $\left(-\dfrac{1}{2}, \dfrac{\sqrt{3}}{2}\right)$
3. $\left(-\dfrac{1}{2}, -\dfrac{\sqrt{3}}{2}\right)$
4. $(1, 0)$
5. $(2b, 0)$
6. $(2, 0)$
7. $(2a, 0)$
8. $(-1, 1)$
9. $(-1, -1)$
10. $(-1, b - a)$
11. $(-a, a(b - a))$
12. $(-1, a - b)$
13. $(-a, a(a - b))$
14. $(a, a - 1)$
15. $(a, -a + 1)$
16. $(1 - a, a)$
17. $(1 - a, -a)$
18. $(-b, 1 + b)$
19. $(-b, -1 - b)$

Call this set of points Z_{12}. Then $H^0(Z_{12}, \mathcal{O}(5))$ has three generators. We can generate each of them as products of three lines and a smooth conic.

First let us start with the product of lines $L_1 = (y)\,(x + y\,(1 + 2a) - 2a)\,(x - y\,(1 + 2a) - 2a)$. Note that L_1 vanishes on all the points except 10, 11, 12, 13, 16, and 17. There exits a conic vanishing on these six remaining points: in particular:

$$Q_1 = (a^2 - 3b^2)\left(x + \frac{1}{2}\left(1 + \sqrt{3}\right)\right)(x + 1) - \left(b + \frac{1}{2}\left(1 + \sqrt{3}\right)\right)(b + 1)\,(y^2 - 3x^2).$$

Then $U_1 = L_1Q_1$ is a quintic polynomial vanishing on the nineteen points.

Similarly, we can construct another quintic using the product of lines

$$\begin{aligned} L_2 = &\left(x\left(a^2-ab\right)+ay\right) \\ \times &\left(x\left(a^2-ab-1\right)+y\left(a-1\right)+a^2-ab-a\right) \\ \times &\left(x\left(a^2-ab\right)+y\left(a+1\right)-a^2+ab\right). \end{aligned}$$

We can define a conic by first defining the four lines

$$\begin{aligned} M_1 &= y-\frac{1}{3}x+\frac{2}{3} \\ M_2 &= (b-a)+y\left(1+2a\right)-2a\left(b-a\right) \\ M_3 &= -x+y\left(1+2a\right)+2a \\ M_4 &= x\left(b-a\right)+3y+2\left(a-b\right) \end{aligned}$$

$Q_2 = M_1(a,a-1)M_2(a,a-1)M_3(x,y)M_4(x,y) - M_1(x,y)M_2(x,y)M_3(a,a-1)M_4(a,a-1).$

Then $U_2 = L_2Q_2$ is cuts out a quintic curve containing the nineteen points of Z_{12}.

Finally, we can create one more quintic curve by taking

$$U_3 = y(3x^2-y^2)(x^2+y^2-2).$$

Then $H^0(Z_{12}, \mathcal{O}(5)) = (U_1, U_2, U_3)$. We can observe two elements $f, g \in (U_1, U_2, U_3)$ meeting in 25 distinct points by taking

$$\begin{aligned} f &= 15U_1+12U_2+26U_3 \\ g &= U_1+U_2-3U_3. \end{aligned}$$