

Indeed, we can give an explicit recipe for the reconstruction of X from B : first embed B in \mathbb{P}^3 as a quintic curve E_0 — by the above, it will not matter what divisor D we employ for the embedding.

Then blow up \mathbb{P}^3 along the curve E_0 , and blow down the family of proper transforms in $\tilde{\mathbb{P}}_{E_0}^3$ of the trichords of E_0 into a curve.

⌈ D , a divisor of degree 5 on B .

$$\textcircled{1} \quad H^0(B, \mathcal{O}(D)) = \langle \sigma_0, \sigma_1, \sigma_2, \sigma_3 \rangle$$

$$\begin{array}{ccc} B & \xrightarrow{\quad} & \mathbb{P}^3 \\ \downarrow p & & \downarrow \\ p & \longmapsto & [\sigma_0(p), \sigma_1(p), \sigma_2(p), \sigma_3(p)] \end{array} \quad \text{see P1004 note.}$$

ⓐ Consider the blow-up $\tilde{\mathbb{P}}_{E_0}^3$ of \mathbb{P}^3 along E_0 .

$$\tilde{\mathbb{P}}_{E_0}^3 \xrightarrow{\pi} \mathbb{P}^3$$

Question? Does there exist $L \in A$ s.t. $E_L = E_0$ up to automorphisms of \mathbb{P}^3 ? \Rightarrow Since $\rho: f(B) \rightarrow \text{pic}^0(B)$ is surjective, $\exists L \in A$ s.t.

$$\rho(L) = [E_L \cap H - 2K_B - p_0] = [D - 2K_B - p_0]$$

\Rightarrow More precisely, $E_L \cap H = \tilde{f}^*(E_L \cap H)$, $\tilde{f}: B \rightarrow E_L \subset \mathbb{P}^3$.

$\Rightarrow [E_L \cap H] = [D]$. \Rightarrow By P492, $E_L = E_0$ up to automorphisms of \mathbb{P}^3 . Thus $\tilde{\mathbb{P}}_{E_0}^3 \cong \tilde{X}_L$, by P604.

As the note on P800, by blowing down the proper