needsPackage("HHLResolutions",FileName=>"HHL Resolutions/HHLResolutions.m2");

needsPackage "Graphs";

BList = {};

cList = {};

for q from 00 to 865 do(

X = smoothFanoToricVariety(5,q);

dim X;

isSmooth X;

isWellDefined X;

classGroup(X);

Y = X\*\*X;

phi = diagonalToricMap(X);

output = makeHHLResolution(Y, matrix phi);

L = for i from 0 to 5 list(-1\*degrees output#i);

L = flatten L;

LBs = for i from 0 to length L-1 list( for j from 0 to rank classGroup(X) - 1 list(L#i#j));

LBs = unique LBs;

length LBs;

quiver = for i from 0 to length LBs-1 list( for j from 0 to length LBs-1 list( for k from 0 to 5 list(HH^k(X, OO\_X( toSequence( for u from 0 to rank classGroup(X) -1 list (LBs#j#u-LBs#i#u) ) ) ) ) ) );

DList = {};

strong = for i from 0 to length LBs-1 list( for j from 0 to length LBs-1 list( for k from 0 to 5 do(if quiver#i#j#k!=0 then print(k,i,j))));

checkStrong = for i from 0 to length LBs-1 list( for j from 0 to length LBs-1 list( for k from 0 to 5 do(if quiver#i#j#k!=0 then DList = append(DList, (k,i,j)) )));

---Now we check for graded Hom's in non-zero degree:

checkNow = for i from 0 to length DList -1 do( if DList#i#0 != 0 then BList = append(BList, (q, "not strong") );

BList = unique BList;

f = "StrongTestDim5Indices00to865" << "";

f << BList << endl;

f << close;

)