In another aspect, the present disclosure refers to crystal modification 1 of odevixibat, having an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 5.6 ± 0.2, 6.7 ± 0.2 and 12.1 ± 0.2.

In a further aspect, the present disclosure refers to a process for the preparation of crystal modification 1 of odevixibat as described herein, comprising isolating crystal modification 2A, 2B or 2C of odevixibat from a solution of odevixibat in a solvent mixture comprising water and an organic solvent selected from the group consisting of methanol, ethanol, 2-propanol, acetone, acetonitrile, 1,4-dioxane, DMF and DMSO, wherein crystal modification 2A of odevixibat has an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 5.0 ± 0.2, 5.1 ± 0.2 and 11.8 ± 0.2, wherein crystal modification 2B of odevixibat has an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 4.8 ± 0.2, 5.1 ± 0.2 and 11.6 ± 0.2, and wherein crystal modification 2C of odevixibat has an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 5.0 ± 0.2, 6.2 ± 0.2, 9.4 ± 0.2 and 23.9 ± 0.2. In a further aspect, the present disclosure refers to a pharmaceutical composition comprising crystal modification 1 of odevixibat as described herein, together with a pharmaceutically acceptable diluent or carrier. In a further aspect, the present disclosure refers to crystal modification 1 of odevixibat as described herein, for use in therapy. In a further aspect, the present disclosure refers to use of crystal modification 1 of odevixibat as described herein in the manufacture of a medicament for the treatment or prevention of a cardiovascular disease or a disorder of fatty acid metabolism or a glucose utilization disorder, such as hypercholesterolemia; disorders of fatty acid metabolism; type 1 and type 2 diabetes mellitus; complications of diabetes, including cataracts, micro- and macrovascular diseases, retinopathy, neuropathy, nephropathy and delayed wound healing, tissue ischaemia, diabetic foot, arteriosclerosis, myocardial infarction, acute coronary syndrome, unstable angina pectoris, stable angina pectoris, stroke, peripheral arterial occlusive disease, cardiomyopathy, heart failure, heart rhythm disorders and vascular restenosis; diabetes-related diseases such as insulin resistance (impaired glucose homeostasis), hyperglycemia, hyperinsulinemia, elevated blood levels of fatty acids or glycerol, obesity, dyslipidemia, hyperlipidemia including hypertriglyceridemia, metabolic syndrome (syndrome X), atherosclerosis and hypertension; and for increasing high density lipoprotein levels.

CLAIMS

1. Crystal modification 1 of odevixibat, having an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 5.6 ± 0.2, 6.7 ± 0.2 and 12.1 ± 0.2.

2. The crystal modification according to claim 1, having an XRPD pattern, obtained with CuKα1-radiation, with specific peaks at °2θ positions 5.6 ± 0.2, 6.7 ± 0.2 and 12.1 ± 0.2 and one or more of the characteristic peaks: 4.1 ± 0.2, 4.6 ± 0.2, 9.3 ± 0.2, 9.4 ± 0.2 and 10.7 ± 0.2.

3. Crystal modification 1 of odevixibat according to claim 1, having an XRPD pattern, obtained with CuKα1-radiation, as shown in FIG. 1.

4. Crystal modification 1 of odevixibat according to any one of claims 1 to 3, having a crystallinity of greater than 99%.

5. A process for the preparation of crystal modification 1 of odevixibat according to claim 1, comprising isolating crystal modification 2A, 2B or 2C of odevixibat from a solution of odevixibat in a solvent mixture comprising water and an organic solvent selected from the group consisting of methanol, ethanol, 2-propanol, acetone, acetonitrile, 1,4-dioxane, DMF and DMSO,

wherein crystal modification 2A of odevixibat has an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 5.0 ± 0.2, 5.1 ± 0.2 and 11.8 ± 0.2,

wherein crystal modification 2B of odevixibat has an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 4.8 ± 0.2, 5.1 ± 0.2 and 11.6 ± 0.2, and

wherein crystal modification 2C of odevixibat has an XRPD pattern, obtained with CuKα1-radiation, with peaks at °2θ positions 5.0 ± 0.2, 6.2 ± 0.2, 9.4 ± 0.2 and 23.9 ± 0.2.

6. The process according to claim 5, comprising isolating crystal modification 2A of odevixibat.

7. The process according to claim 5 or 6, wherein crystal modification 2A of odevixibat is obtained from a mixture of water and ethanol.

8. The process according to claim 7, wherein the ethanol content in the solvent mixture is 55 to 75% (v/v).

9. A pharmaceutical composition comprising crystal modification 1 of odevixibat according to any one of claims 1 to 4, together with a pharmaceutically acceptable diluent or carrier.

10. Crystal modification 1 of odevixibat according to any one of claims 1 to 4, for use in therapy.

11. Use of crystal modification 1 of odevixibat according to any one of claims 1 to 4 in the manufacture of a medicament for the treatment or prevention of a cardiovascular disease or a disorder of fatty acid metabolism or a glucose utilization disorder, such as hypercholesterolemia; disorders of fatty acid metabolism; type 1 and type 2 diabetes mellitus; complications of diabetes, including cataracts, micro- and macrovascular diseases, retinopathy, neuropathy, nephropathy and delayed wound healing, tissue ischaemia, diabetic foot, arteriosclerosis, myocardial infarction, acute coronary syndrome, unstable angina pectoris, stable angina pectoris, stroke, peripheral arterial occlusive disease, cardiomyopathy, heart failure, heart rhythm disorders and vascular restenosis; diabetes-related diseases such as insulin resistance (impaired glucose homeostasis), hyperglycemia, hyperinsulinemia, elevated blood levels of fatty acids or glycerol, obesity, dyslipidemia, hyperlipidemia including hypertriglyceridemia, metabolic syndrome (syndrome X), atherosclerosis and hypertension; and for increasing high density lipoprotein levels.

12. Use of crystal modification 1 of odevixibat according to any one of claims 1 to 4 in the manufacture of a medicament for the treatment or prevention of a gastrointestinal disease or disorder, such as constipation (including chronic constipation, functional constipation, chronic idiopathic constipation (CIC), intermittent/sporadic constipation, constipation secondary to diabetes mellitus, constipation secondary to stroke, constipation secondary to chronic kidney disease, constipation secondary to multiple sclerosis, constipation secondary to Parkinson's disease, constipation secondary to systemic sclerosis, drug induced constipation, irritable bowel syndrome with constipation (IBS-C), irritable bowel syndrome mixed (IBS-M), pediatric functional constipation and opioid induced constipation); Crohn's disease; primary bile acid malabsorption; irritable bowel syndrome (IBS); inflammatory bowel disease (IBD); ileal inflammation; and reflux disease and complications thereof, such as Barrett's esophagus, bile reflux esophagitis and bile reflux gastritis.

13. Use of crystal modification 1 of odevixibat according to any one of claims 1 to 4 in the manufacture of a medicament for the treatment or prevention of a liver disease or disorder, such as an inherited metabolic disorder of the liver; inborn errors of bile acid synthesis; congenital bile duct anomalies; biliary atresia; post-Kasai biliary atresia; post-liver transplantation biliary atresia; neonatal hepatitis; neonatal cholestasis; hereditary forms of cholestasis; cerebrotendinous xanthomatosis; a secondary defect of BA synthesis; Zellweger´s syndrome; cystic fibrosis-associated liver disease; alpha1-antitrypsin deficiency; Alagilles syndrome (ALGS); Byler syndrome; a primary defect of bile acid (BA) synthesis; progressive familial intrahepatic cholestasis (PFIC) including PFIC-1, PFIC-2, PFIC-3 and non-specified PFIC, post-biliary diversion PFIC and post-liver transplant PFIC; benign recurrent intrahepatic cholestasis (BRIC) including BRIC1, BRIC2 and non-specified BRIC, post-biliary diversion BRIC and post-liver transplant BRIC; autoimmune hepatitis; primary biliary cirrhosis (PBC); liver fibrosis; non-alcoholic fatty liver disease (NAFLD); non-alcoholic steatohepatitis (NASH); portal hypertension; cholestasis; Down syndrome cholestasis; drug-induced cholestasis; intrahepatic cholestasis of pregnancy (jaundice during pregnancy); intrahepatic cholestasis; extrahepatic cholestasis; parenteral nutrition associated cholestasis (PNAC); low phospholipid-associated cholestasis; lymphedema cholestasis syndrome 1 (LSC1); primary sclerosing cholangitis (PSC); immunoglobulin G4 associated cholangitis; primary biliary cholangitis; cholelithiasis (gall stones); biliary lithiasis; choledocholithiasis; gallstone pancreatitis; Caroli disease; malignancy of bile ducts; malignancy causing obstruction of the biliary tree; biliary strictures; AIDS cholangiopathy; ischemic cholangiopathy; pruritus due to cholestasis or jaundice; pancreatitis; chronic autoimmune liver disease leading to progressive cholestasis; hepatic steatosis; alcoholic hepatitis; acute fatty liver; fatty liver of pregnancy; drug-induced hepatitis; iron overload disorders; congenital bile acid synthesis defect type 1 (BAS type 1); drug-induced liver injury (DILI); hepatic fibrosis; congenital hepatic fibrosis; hepatic cirrhosis; Langerhans cell histiocytosis (LCH); neonatal ichthyosis sclerosing cholangitis (NISCH); erythropoietic protoporphyria (EPP); idiopathic adulthood ductopenia (IAD); idiopathic neonatal hepatitis (INH); non syndromic paucity of interlobular bile ducts (NS PILBD); North American Indian childhood cirrhosis (NAIC); hepatic sarcoidosis; amyloidosis; necrotizing enterocolitis; serum bile acid-caused toxicities, including cardiac rhythm disturbances (e.g., atrial fibrillation) in setting of abnormal serum bile acid profile, cardiomyopathy associated with liver cirrhosis (“cholecardia”), and skeletal muscle wasting associated with cholestatic liver disease; viral hepatitis (including hepatitis A, hepatitis B, hepatitis C, hepatitis D and hepatitis E); hepatocellular carcinoma (hepatoma); cholangiocarcinoma; bile acid-related gastrointestinal

cancers; and cholestasis caused by tumours and neoplasms of the liver, of the biliary tract and of the pancreas.

14. Use of crystal modification 1 of odevixibat according to any one of claims 1 to 4 in the manufacture of a medicament for the treatment or prevention of hyperabsorption syndromes (including abetalipoproteinemia, familial hypobetalipoproteinemia (FHBL), chylomicron retention disease (CRD) and sitosterolemia); hypervitaminosis and osteopetrosis; hypertension; glomerular hyperfiltration; and pruritus of renal failure.