	a GLUCOSIDASE Inhibitors	BIGUANIDES	DPP-4 INHIBITORS			HUMAN GLUCAGON-LIKE PEPTIDE (GLP-1 AGONISTS)		
	Acarbose (Prandase, Glucobay)	Metformin (Glucophage, Glumetza, Avandamet, Janumet)	Linagliptin (Trajenta)	Saxagliptin (Onglyza) Saxagliptin/metformin (Kombiglyze)	Sitagliptin (Januvia) Sitagliptin/metformin (Janumet)	Exenatide (Byetta)	Liraglutide (Victoza)	
INTEGRASE INHIBITORS								
• ELVITEGRAVIR/ COBICISTAT (Stribild, Genvoya)	1	1	1	1	1	1	1	
DOLUTEGRAVIR (Tivicay, Triumeq)	1		1	√	√	1	<b>√</b>	
RALTEGRAVIR (Isentress)	√	√	√	1	√	√	1	
PROTEASE INHIBITORS								
<ul><li>DARUNAVIR (Prezcobix, Prezista)</li><li>LOPINAVIR (Kaletra)</li></ul>	1	1	1	1	1	4	Potential for additive PR prolongation	

	a GLUCOSIDASE Inhibitors	BIGUANIDES	DPP-4 INHIBITORS			HUMAN GLUCAGON-LIKE PEPTIDE (GLP-1 AGONISTS)	
	Acarbose (Prandase, Glucobay)	Metformin (Glucophage, Glumetza, Avandamet, Janumet)	Linagliptin (Trajenta)	Saxagliptin (Onglyza) Saxagliptin/metformin (Kombiglyze)	Sitagliptin (Januvia) Sitagliptin/metformin (Janumet)	Exenatide (Byetta)	Liraglutide (Victoza)
NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS							
• RILPIVIRINE (Complera, Edurant)	1	1	1	1	1	1	Potential for additive PR prolongation
<ul><li> EFAVIRENZ (Sustiva, Atripla)</li><li> ETRAVIRINE (Intelence)</li><li> NEVIRAPINE (Viramune)</li></ul>	4	1	 Potential for ↓ linagliptin	 Potential↓ saxagliptin	<b>√</b>	<b>√</b>	√

	MEGLITINIDES		SGLT2 INHIBITORS		SULFONYLUREAS	THIAZOLIDINEDIONES (TZDS)	
	Repaglinide (GlucoNorm)	Nateglinide (Starlix)	Canagliflozin (Invokana)	Dapagliflozin (Forxiga), empagliflozin (Jardiance)	Gliclazide (Diamicron) Glimepiride (Amaryl) Glyburide (Diabeta)	Pioglitazone (Actos)	Rosiglitazone (Avandia) Rosiglitazone/Metformin (Avandamet)
INTEGRASE INHIBITORS							
• DOLUTEGRAVIR (Tivicay, Triumeq)	√	√	√	√	√	√	√
• ELVITEGRAVIR/ COBICISTAT (Stribild, Genvoya)	<u>∧</u> Potential ↑ repaglinide	 Potential ↓ nateglinide	1	<b>√</b>	 Potential ↓ sulfonyurea	1	√
RALTEGRAVIR (Isentress)	√	√	√	√	√	√	√
PROTEASE INHIBITORS							
<ul> <li>RITONAVIR (Norvir) or cobicistat-boosted Pls, e.g.:</li> <li>ATAZANAVIR (Reyataz)</li> </ul>		Potential  ↓ canagliflozin with ritonavir-boosted PIs	J	Potential  ↓ sulfonyurea with ritonavir-boosted Pls	Potential  † pioglitazone	Potential  † rosiglitazone with atazanavir alone with 2C8 inhibition	
DARUNAVIR (Prezcobix, Prezista)     LOPINAVIR (Kaletra)	† repaglinide	nateglinide concentrations	√ Cobicistat-boosted Pls: no interaction expected		√ Cobicistat-boosted Pls: no interaction expected	1	√

DIABETES MEDICATIONS

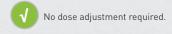
	MEGLITINIDES		SGLT2 INHIBITORS		SULFONYLUREAS	THIAZOLIDINEDIONES (TZDS)		
	Repaglinide (GlucoNorm)	Nateglinide (Starlix)	Canagliflozin (Invokana)	Dapagliflozin (Forxiga), empagliflozin (Jardiance)	Gliclazide (Diamicron) Glimepiride (Amaryl) Glyburide (Diabeta)	Pioglitazone (Actos)	Rosiglitazone (Avandia) Rosiglitazone/Metformii (Avandamet)	
NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS								
• RILPIVIRINE (Complera, Edurant)	√	√	√	√	√	√	√	
<ul><li> EFAVIRENZ (Sustiva, Atripla)</li><li> ETRAVIRINE (Intelence)</li><li> NEVIRAPINE (Viramune)</li></ul>	<u>∧</u> Potential↓ repaglinide	Potential † nateglinide with etravirine and efavirenz		<b>√</b>	Potential † sulfonyurea with etravirine and efavirenz	<u>∧</u> Potential↓ pioglitazone	√	

### Mechanism of Drug Interactions, Management and Monitoring

	METFORMIN	DPP-4 INHIBITORS		MEGLITINIDES			
MECHANISM OF INTERACTION	Metformin: excreted 100% as unchanged drug by glomerular filtration plus active tubular secretion via OCT2 and MATE-1-2K	Linagliptin: inhibition of CYP3A4 and P-gp Saxagliptin: inhibition of CYP3A4	Linagliptin, saxagliptin: induction of CYP3A4/P-gp	<b>Repaglinide:</b> inhibition OATP1B1 and CYP3A4	Nateglinide: induction CYP2C9	Nateglinide: inhibition CYP2C9	
MAIN INTERACTING ARVs	Dolutegravir	Ritonavir and cobicistat-boosted protease inhibitors and cobicistat-boosted elvitegravir	Efavirenz, etravirine, nevirapine	Ritonavir and cobicistat- boosted protease inhibitors and cobicistat-boosted elvitegravir	Elvitegravir	Efavirenz, etravirine	
MANAGEMENT	Close monitoring is recommended when starting or stopping dolutegravir and metformin together  If patient is already receiving dolutegravir, start with a low metformin dose and gradually increase. If patient is starting/stoping dolutegravir while receiving metformin, a dose adjustment may be necessary  Choose an alternative antidiabetic agent or antiretroviral if high-dose metformin is not tolerated with dolutegravir, if it is considered necessary	May not be clinically significant, since linagliptin and saxagliptin have a large safety window No dose adjustment necessary	Adjust linagliptin and saxagliptin doses if needed	Adjust dose if needed	Adjust dose if needed	Adjust dose if needed	
MONITORING	Metformin side effects (primarily gastrointestinal)	No monitoring suggested	Close monitoring of efficacy	Close monitoring of side effects	Antihyperglycemic efficacy	Close monitoring of side effects. May potentiate the hypoglycemic action	

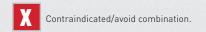
#### Mechanism of Drug Interactions, Management and Monitoring

	SGLT2 INHIBITORS	SULFONY	/LUREAS	THIAZOLIDINEDIONES		
MECHANISM OF INTERACTION	Canagliflozin: induction UGT	Gliclazide, glimepiride and glyburide: 2C9 induction	Gliclazide, glimepiride and glyburide: 2C9 inhibition	<b>Pioglitazone:</b> 3A4 inhibition	<b>Pioglitazone:</b> 3A4 induction	Rosiglitazone: 2C8 inhibition
MAIN INTERACTING ARVs	Ritonavir protease inhibitors boosted and efavirenz	Ritonavir PIs boosted Elvitegravir	Efavirenz and etravirine	Ritonavir and cobicistat Pls boosted Cobicistat elvitegravir boosted	Efavirenz, nevirapine and etravirine	Unboosted atazanavir
MANAGEMENT	Adjust dose as needed	Adjust dose as needed	Adjust dose as needed	Adjust dose as needed	Adjust dose as needed	Adjust dose as needed
MONITORING	Antihyperglycemic efficacy	Antihyperglycemic efficacy	Sulfonylurea side effects	Pioglitazone side effects	Antihyperglycemic efficacy	Rosiglitazone side effects





Use combination with caution. Adjustment in drug dose or frequency, additional/more frequent monitoring, or use of an alternative agent may be required. May wish to consult with a pharmacist knowledgeable in HIV drug interactions.





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