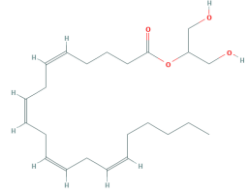
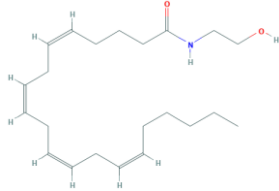
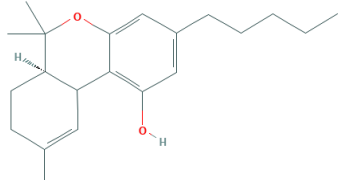
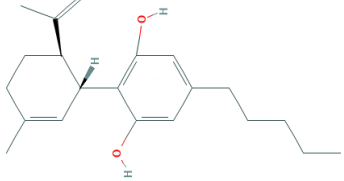
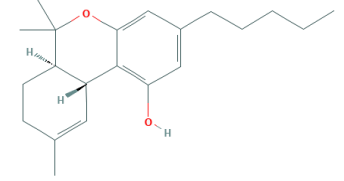
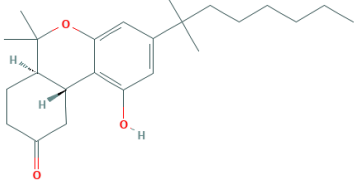
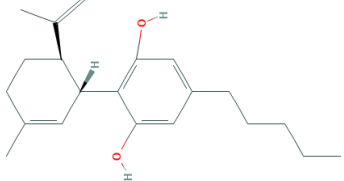


Updated January 2019

Table 1: Different Types of Cannabinoids:

	Potency toward CB Receptors	Metabolism	Chemical Structures**
Endocannabinoids(1-5)			
2-arachidonoylglycerol	<ul style="list-style-type: none"> Both CB1 and CB2 	<ul style="list-style-type: none"> Primarily MAGL into glycerol and arachidonic acid 	
Anandamide	<ul style="list-style-type: none"> Preferentially CB1 Some activity on TRPV-1 	<ul style="list-style-type: none"> FAAH ethanolamine and arachidonic acid COX-2 into prostaglandins 	
Phytocannabinoids(6, 7)			
Delta-9-tetrahydrocannabinol	<ul style="list-style-type: none"> Both CB1 and CB2 	<ul style="list-style-type: none"> Phase I enzymes including CYP 2C9, 2C19, and 3A4 Phase II enzymes 	
Cannabidiol	<ul style="list-style-type: none"> Preferentially CB2 	<ul style="list-style-type: none"> Phase I enzymes including CYP 2C19 and 3A4 Phase II enzymes including UGT 1A7, 1A9, and 2B7 	
Synthetic Cannabinoids(8-10)			
Dronabinol (Marinol®)	<ul style="list-style-type: none"> Both CB1 and CB2 	<ul style="list-style-type: none"> Phase I enzymes including CYP 2C9, 2C19, and 3A4 Phase II enzymes 	
Nabilone (Cesamet®, Syndros®)	<ul style="list-style-type: none"> Both CB1 and CB2 	<ul style="list-style-type: none"> Not fully elucidated, however several metabolites have been identified 	
Cannabidiol (Epidiolex®)	<ul style="list-style-type: none"> Preferentially CB2 	<ul style="list-style-type: none"> Phase I enzymes including CYP 2C19 and 3A4 Phase II enzymes including UGT 1A7, 1A9, and 2B7 	

**All chemical structures obtained from pubchem.com

Table 2: Overview of Future Products

Product Name	Mechanism	Company Developing Product	Stage of research	Ongoing trials?
CB1 and CB2 Receptor Agonists(11-19)				
Olorinab (APD371)	<ul style="list-style-type: none"> • CB2 receptor agonist 	<ul style="list-style-type: none"> • Arena Pharmaceuticals 	<ul style="list-style-type: none"> • Phase IIb 	<ul style="list-style-type: none"> • Yes; for treatment of visceral gastrointestinal pain
Lenabasum (JBT-101)		<ul style="list-style-type: none"> • Corbus Pharmaceuticals 	<ul style="list-style-type: none"> • Phase III • Phase II 	<ul style="list-style-type: none"> • Yes; for treatment of systemic sclerosis and dermatomyositis • Yes; treatment of systemic lupus erythematosus and cystic fibrosis
NEO1940/ART2 7.13	<ul style="list-style-type: none"> • CB1 and CB2 with limited CNS penetration 	<ul style="list-style-type: none"> • NeoMed Institute and Artelo Biosciences 	<ul style="list-style-type: none"> • Phase II 	<ul style="list-style-type: none"> • Yes, for multimodal supportive care therapy for cancer patients and cancer-related anorexia
CRB-4001	<ul style="list-style-type: none"> • CB1 inverse agonist 	<ul style="list-style-type: none"> • Corbus Pharmaceuticals 	<ul style="list-style-type: none"> • Pre-Clinical 	<ul style="list-style-type: none"> • No • Trials planned for treatment of disease with organ-specific fibrosis
Alternative Endocannabinoid Targets(20-28)				
NEO6860	<ul style="list-style-type: none"> • Antagonist of TRPV1 	<ul style="list-style-type: none"> • NeoMed Institute 	<ul style="list-style-type: none"> • Phase I 	<ul style="list-style-type: none"> • Yes; for treatment of osteoarthritis pain, neuropathic pain, and visceral pain/chronic pancreatitis
ART26.12	<ul style="list-style-type: none"> • FABP5 inhibitor 	<ul style="list-style-type: none"> • Artelo 	<ul style="list-style-type: none"> • Pre-Clinical 	<ul style="list-style-type: none"> • Lead Identification trials
Catabolism of Endocannabinoids(29-31)				
ABX-1431	<ul style="list-style-type: none"> • MAGL inhibitor 	<ul style="list-style-type: none"> • Abide Therapeutics 	<ul style="list-style-type: none"> • Phase II 	<ul style="list-style-type: none"> • Yes; for treatment of Tourette Syndrome and pain
Multiple Endocannabinoid Targets(32-35)				
OMDM-198	<ul style="list-style-type: none"> • FAAH inhibitor • TRPV1 inhibitor 	<ul style="list-style-type: none"> • Unknown Company 	<ul style="list-style-type: none"> • Pre-Clinical 	<ul style="list-style-type: none"> • No human trials planned at this time
ARN2508	<ul style="list-style-type: none"> • FAAH inhibitor • COX-2 inhibitor 	<ul style="list-style-type: none"> • Unknown Company 	<ul style="list-style-type: none"> • Pre-Clinical 	<ul style="list-style-type: none"> • No human trials planned at this time

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 Senior Strategy Consultant and Therapeutics Associate, Remitigate, LLC
 jbettinger@remitigate.com

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