

Supplementary Table S1: Complete Medical Text Prompt Set

This table lists all 20 clinically validated text prompt variants for each of the 16 anatomical and pathological classes used in TriPROMPT. For each of the $K=16$ classes, 20 phrase variants were generated using GPT-4 and subsequently reviewed and validated by a board-certified abdominal radiologist with 12 years of clinical imaging experience. Prompts span three linguistic registers:

- **Short noun phrases** (e.g., “pancreatic head”): concise anatomical identifiers suitable for class disambiguation in multi-organ settings.
- **Clinical descriptions** (e.g., “exocrine pancreas, prone to respiratory displacement”): medium-length phrases embedding physiological and spatial context.
- **Pathology-inclusive phrases** (e.g., “mass-effected gallbladder with pericholecystic fluid”): longer, disease-state-aware descriptions targeting rare or deformed presentations.

During training, one variant is sampled uniformly at random per class per iteration. Classes 1–11 are abdominal organs; Classes 12–16 are tumor subtypes. Organ classes; Tumor classes.

Supplementary Table S1. Complete validated text prompt set (20 variants per class, 16 classes, 320 prompts total). Variants are numbered P1–P20 within each class. Register abbreviations: NP = short noun phrase; CD = clinical description; PI = pathology-inclusive phrase.

#	Class	Reg.	Prompt Variant
Class 1: Liver			
1	Liver	NP	liver
2	Liver	NP	hepatic parenchyma
3	Liver	NP	liver organ
4	Liver	NP	right upper quadrant liver
5	Liver	CD	large abdominal organ responsible for metabolism and detoxification
6	Liver	CD	hepatic tissue, largest solid organ in the abdomen
7	Liver	CD	liver parenchyma bordered by the diaphragm superiorly
8	Liver	CD	right lobe-dominant organ with homogeneous attenuation on CT
9	Liver	CD	liver with normal triangular morphology and smooth capsule
10	Liver	CD	hepatic organ susceptible to respiratory excursion
11	Liver	CD	liver lying in the right hypochondrium and epigastric region
12	Liver	CD	organ with portal venous and hepatic arterial dual blood supply
13	Liver	PI	liver with possible focal lesion or heterogeneous parenchyma
14	Liver	PI	hepatic organ, potentially enlarged or atrophic due to cirrhosis
15	Liver	PI	liver parenchyma with or without tumor infiltration
16	Liver	PI	hepatic tissue, may show fatty change or fibrotic remodeling
17	Liver	PI	liver with displacement from adjacent mass effect
18	Liver	PI	right lobe of liver, potentially compressed by ascites
19	Liver	PI	liver with irregular margins in advanced hepatic disease
20	Liver	PI	hepatic organ with altered shape due to surgical resection history
Class 2: Spleen			
1	Spleen	NP	spleen
2	Spleen	NP	splenic organ
3	Spleen	NP	left upper quadrant spleen
4	Spleen	NP	spleen in left hypochondrium
5	Spleen	CD	solid lymphoid organ in the left upper abdomen
6	Spleen	CD	spleen with homogeneous attenuation, crescent shape on axial CT
7	Spleen	CD	splenic parenchyma posterior to the stomach
8	Spleen	CD	immune organ adjacent to the tail of the pancreas
9	Spleen	CD	spleen susceptible to respiratory displacement
10	Spleen	CD	left upper quadrant organ with smooth capsule and uniform density
11	Spleen	CD	spleen with hilar vessels including the splenic artery and vein
12	Spleen	CD	lymphoid organ that filters blood, located retroperitoneally

#	Class	Reg.	Prompt Variant
13	Spleen	PI	spleen potentially enlarged due to portal hypertension or hematologic disease
14	Spleen	PI	splenic organ with accessory splenules possible
15	Spleen	PI	spleen with laceration or contusion artifact in trauma cases
16	Spleen	PI	enlarged or atrophic spleen due to systemic disease
17	Spleen	PI	splenic parenchyma displaced by adjacent hepatomegaly or tumor
18	Spleen	PI	spleen with wedge-shaped infarct or heterogeneous density
19	Spleen	PI	spleen compressed by large hepatic mass or left adrenal tumor
20	Spleen	PI	splenic organ with altered position due to wandering spleen variant
Class 3: Left Kidney			
1	Left Kidney	NP	left kidney
2	Left Kidney	NP	left renal organ
3	Left Kidney	NP	kidney on the left side
4	Left Kidney	NP	left retroperitoneal kidney
5	Left Kidney	CD	left kidney in the retroperitoneal space at L1–L2 level
6	Left Kidney	CD	left renal parenchyma with cortex and medulla
7	Left Kidney	CD	left kidney inferior to the spleen and lateral to the aorta
8	Left Kidney	CD	left kidney with renal pelvis and ureteropelvic junction
9	Left Kidney	CD	left renal organ, bean-shaped with smooth outer capsule
10	Left Kidney	CD	left kidney showing corticomedullary differentiation on contrast CT
11	Left Kidney	CD	left kidney with adrenal gland superior to its upper pole
12	Left Kidney	CD	left renal organ receiving flow from the left renal artery
13	Left Kidney	PI	left kidney with renal cell carcinoma or cystic lesion
14	Left Kidney	PI	left renal organ enlarged or deformed by mass effect
15	Left Kidney	PI	left kidney with hydronephrosis or collecting system dilation
16	Left Kidney	PI	left kidney with atrophy or compensatory hypertrophy
17	Left Kidney	PI	left renal parenchyma thinned by chronic obstruction
18	Left Kidney	PI	left kidney with perinephric stranding or inflammatory change
19	Left Kidney	PI	left kidney displaced medially by retroperitoneal adenopathy
20	Left Kidney	PI	left renal organ with altered axis due to adjacent tumor mass
Class 4: Right Kidney			
1	Right Kidney	NP	right kidney
2	Right Kidney	NP	right renal organ
3	Right Kidney	NP	kidney on the right side
4	Right Kidney	NP	right retroperitoneal kidney
5	Right Kidney	CD	right kidney inferior to the liver at the L1–L2 vertebral level
6	Right Kidney	CD	right renal parenchyma lateral to the inferior vena cava
7	Right Kidney	CD	right kidney with cortex, medulla, and collecting system
8	Right Kidney	CD	right renal organ, lower pole often more caudally positioned than left
9	Right Kidney	CD	right kidney with smooth capsule and uniform corticomedullary density
10	Right Kidney	CD	right renal organ receiving flow from the right renal artery
11	Right Kidney	CD	right kidney adjacent to the duodenum medially
12	Right Kidney	CD	right renal organ with adrenal gland capping its superior pole
13	Right Kidney	PI	right kidney with renal cell carcinoma or angiomyolipoma
14	Right Kidney	PI	right renal organ enlarged or compressed by adjacent liver mass
15	Right Kidney	PI	right kidney with hydronephrosis due to ureteric obstruction
16	Right Kidney	PI	right renal parenchyma with cystic degeneration
17	Right Kidney	PI	right kidney atrophic or compensatorily enlarged
18	Right Kidney	PI	right renal organ displaced superiorly by retroperitoneal mass
19	Right Kidney	PI	right kidney with perinephric collection or hematoma
20	Right Kidney	PI	right renal organ with altered morphology in horseshoe kidney variant
Class 5: Stomach			
1	Stomach	NP	stomach
2	Stomach	NP	gastric organ
3	Stomach	NP	stomach in left upper abdomen
4	Stomach	NP	gastric lumen and wall

#	Class	Reg.	Prompt Variant
5	Stomach	CD	hollow muscular organ in the left upper abdomen for food digestion
6	Stomach	CD	stomach with fundus, body, antrum, and pylorus
7	Stomach	CD	gastric organ prone to large volume and positional variation on CT
8	Stomach	CD	stomach with rugal folds, positioned between the esophagus and duodenum
9	Stomach	CD	gastric organ that changes shape with fill state and respiratory phase
10	Stomach	CD	stomach in the left hypochondrium and epigastric region
11	Stomach	CD	gastric wall with outer serosa and inner mucosal lining
12	Stomach	CD	stomach adjacent to the spleen laterally and liver anteriorly
13	Stomach	PI	stomach displaced inferiorly by hepatomegaly or hiatal hernia
14	Stomach	PI	gastric organ compressed by large left lobe hepatic mass
15	Stomach	PI	stomach with wall thickening due to gastric carcinoma
16	Stomach	PI	gastric organ rotated or inverted in organoaxial volvulus
17	Stomach	PI	stomach with linitis plastica causing rigid diffuse wall thickening
18	Stomach	PI	gastric organ distended with fluid in post-pyloric obstruction
19	Stomach	PI	stomach with perigastric fat stranding from adjacent tumor invasion
20	Stomach	PI	gastric organ with large exophytic mass displacing adjacent structures

Class 6: Pancreas

1	Pancreas	NP	pancreas
2	Pancreas	NP	pancreatic head
3	Pancreas	NP	pancreatic body and tail
4	Pancreas	NP	exocrine pancreas
5	Pancreas	CD	exocrine pancreas, prone to respiratory displacement
6	Pancreas	CD	retroperitoneal organ in the transpyloric plane with head, body, and tail
7	Pancreas	CD	pancreatic parenchyma anterior to the superior mesenteric vessels
8	Pancreas	CD	pancreas with main pancreatic duct of Wirsung
9	Pancreas	CD	slender retroperitoneal organ with highly variable shape across subjects
10	Pancreas	CD	pancreatic gland prone to atrophy in chronic pancreatitis
11	Pancreas	CD	pancreas adjacent to the duodenal C-loop and common bile duct
12	Pancreas	CD	pancreatic parenchyma with lobulated contour and fatty replacement
13	Pancreas	PI	pancreas with ductal adenocarcinoma causing upstream duct dilation
14	Pancreas	PI	pancreatic head enlarged by tumor causing double-duct sign
15	Pancreas	PI	pancreatic parenchyma atrophic distal to obstructing malignancy
16	Pancreas	PI	pancreas with cystic lesion such as IPMN or mucinous cystadenoma
17	Pancreas	PI	pancreatic organ displaced by adjacent gastric or duodenal mass
18	Pancreas	PI	pancreas with acute inflammation and peripancreatic fluid stranding
19	Pancreas	PI	pancreatic tail displaced superiorly by splenic mass
20	Pancreas	PI	pancreatic parenchyma with heterogeneous enhancement in neoplastic disease

Class 7: Gallbladder

1	Gallbladder	NP	gallbladder
2	Gallbladder	NP	biliary gallbladder
3	Gallbladder	NP	gallbladder fossa
4	Gallbladder	NP	cholecyst
5	Gallbladder	CD	pear-shaped biliary reservoir on the inferior surface of the liver
6	Gallbladder	CD	gallbladder with fundus, body, neck, and cystic duct
7	Gallbladder	CD	biliary organ that stores and concentrates bile between meals
8	Gallbladder	CD	gallbladder in the gallbladder fossa between right and left hepatic lobes
9	Gallbladder	CD	small hollow organ with thin wall and homogeneous bile content
10	Gallbladder	CD	gallbladder whose size varies with fasting state
11	Gallbladder	CD	biliary gallbladder adjacent to the liver inferiorly and the duodenum medially
12	Gallbladder	CD	gallbladder with cystic duct joining the common bile duct
13	Gallbladder	PI	mass-effected gallbladder with pericholecystic fluid
14	Gallbladder	PI	gallbladder with wall thickening due to cholecystitis or tumor
15	Gallbladder	PI	distended gallbladder with impacted calculus at the neck

#	Class	Reg.	Prompt Variant
16	Gallbladder	PI	gallbladder compressed by adjacent hepatic or colonic mass
17	Gallbladder	PI	contracted or absent gallbladder post-cholecystectomy
18	Gallbladder	PI	gallbladder with porcelain calcification of the wall
19	Gallbladder	PI	gallbladder with polypoid lesion or mural nodule
20	Gallbladder	PI	gallbladder displaced or obscured by large liver mass
Class 8: Aorta			
1	Aorta	NP	aorta
2	Aorta	NP	abdominal aorta
3	Aorta	NP	descending thoracic aorta
4	Aorta	NP	aortic lumen
5	Aorta	CD	largest artery in the body descending along the vertebral column
6	Aorta	CD	abdominal aorta from the diaphragmatic hiatus to the iliac bifurcation
7	Aorta	CD	tubular vascular structure with high attenuation on contrast CT
8	Aorta	CD	aorta anterior to the vertebral column and left of the inferior vena cava
9	Aorta	CD	aortic vessel with major visceral branches including celiac, SMA, and renal arteries
10	Aorta	CD	aorta with calcified atherosclerotic plaques in older patients
11	Aorta	CD	aortic lumen distinguishable from surrounding soft tissue by bright contrast enhancement
12	Aorta	CD	abdominal aorta with outer adventitia and inner intimal layer
13	Aorta	PI	aorta with aneurysmal dilation defined as diameter exceeding 3 cm
14	Aorta	PI	aortic wall with mural thrombus in abdominal aortic aneurysm
15	Aorta	PI	aorta displaced or encased by retroperitoneal lymphadenopathy
16	Aorta	PI	aorta with intimal flap visible in aortic dissection
17	Aorta	PI	aortic lumen narrowed by atherosclerotic stenosis
18	Aorta	PI	aorta with periaortic soft tissue cuffing in inflammatory aneurysm
19	Aorta	PI	aortic stent graft visible as metallic hyperdensity on CT
20	Aorta	PI	aorta with rupture risk due to large aneurysm or penetrating ulcer
Class 9: Esophagus			
1	Esophagus	NP	esophagus
2	Esophagus	NP	esophageal lumen
3	Esophagus	NP	lower esophagus
4	Esophagus	NP	esophageal wall
5	Esophagus	CD	muscular tube connecting the pharynx to the stomach
6	Esophagus	CD	esophagus descending in the posterior mediastinum anterior to the spine
7	Esophagus	CD	esophageal structure passing through the diaphragmatic hiatus
8	Esophagus	CD	hollow tubular organ with collapsed lumen on CT in fasting state
9	Esophagus	CD	esophagus lateral to the trachea at the thoracic inlet
10	Esophagus	CD	lower esophagus with gastroesophageal junction at the cardia
11	Esophagus	CD	esophageal wall with inner mucosa and outer muscular layers
12	Esophagus	CD	esophagus distinguishable as a soft-tissue ring at mediastinal window
13	Esophagus	PI	esophagus with wall thickening due to adenocarcinoma or squamous cell carcinoma
14	Esophagus	PI	esophageal lumen dilated in achalasia with retained food debris
15	Esophagus	PI	esophagus with periesophageal lymphadenopathy in advanced carcinoma
16	Esophagus	PI	esophageal wall thickened by reflux esophagitis or Barrett's changes
17	Esophagus	PI	esophagus with large exophytic tumor at the gastroesophageal junction
18	Esophagus	PI	esophagus narrowed by external compression from mediastinal mass
19	Esophagus	PI	lower esophagus with varices in portal hypertension
20	Esophagus	PI	esophageal organ displaced by large aortic aneurysm or mediastinal adenopathy
Class 10: Duodenum			
1	Duodenum	NP	duodenum
2	Duodenum	NP	duodenal C-loop

#	Class	Reg.	Prompt Variant
3	Duodenum	NP	first part of the small bowel
4	Duodenum	NP	duodenal bulb and descending duodenum
5	Duodenum	CD	first segment of the small intestine forming a C-shape around the pancreatic head
6	Duodenum	CD	duodenum with four parts: bulb, descending, horizontal, and ascending
7	Duodenum	CD	retroperitoneal bowel loop receiving bile from the common bile duct
8	Duodenum	CD	duodenal lumen containing the ampulla of Vater at the second part
9	Duodenum	CD	highly mobile bowel segment with variable position on CT
10	Duodenum	CD	duodenum adjacent to the right kidney medially and gallbladder superiorly
11	Duodenum	CD	duodenal C-loop wrapping around the pancreatic head
12	Duodenum	CD	duodenum where gastric emptying delivers acidic chyme for further digestion
13	Duodenum	PI	duodenum compressed by pancreatic head mass producing obstruction
14	Duodenum	PI	duodenal wall thickened by Crohn's disease or primary tumor
15	Duodenum	PI	duodenum displaced by large pancreatic pseudocyst
16	Duodenum	PI	duodenal obstruction proximal to pancreatic carcinoma
17	Duodenum	PI	duodenum with ulcer crater visible as focal mucosal defect
18	Duodenum	PI	duodenal bowel loop distorted by peripancreatic inflammatory change
19	Duodenum	PI	duodenum with invasion by adjacent right colon carcinoma
20	Duodenum	PI	duodenal C-loop widened by pancreatic head enlargement
Class 11: Colon			
1	Colon	NP	colon
2	Colon	NP	large bowel
3	Colon	NP	colonic lumen and wall
4	Colon	NP	ascending and descending colon
5	Colon	CD	large intestine responsible for water absorption and stool formation
6	Colon	CD	colon with ascending, transverse, descending, and sigmoid segments
7	Colon	CD	large bowel running in the periphery of the abdominal cavity
8	Colon	CD	colon identified by haustral folds and gas-containing lumen on CT
9	Colon	CD	colonic organ with hepatic and splenic flexures at right and left upper abdomen
10	Colon	CD	large bowel lateral to the small intestine in the peritoneal cavity
11	Colon	CD	colon prone to position variation with distension state and respiratory phase
12	Colon	CD	colonic wall with inner mucosa and outer mesenteric fat
13	Colon	PI	colon with wall thickening due to adenocarcinoma or diverticular disease
14	Colon	PI	colonic segment with shoulder sign indicating annular carcinoma
15	Colon	PI	colon with pericolic fat stranding from inflammatory or neoplastic disease
16	Colon	PI	large bowel obstructed proximal to stenosing carcinoma
17	Colon	PI	colon with fistulous tract from diverticulitis or Crohn's disease
18	Colon	PI	colonic organ displaced by large pelvic or hepatic mass
19	Colon	PI	colon with synchronous tumors in hereditary polyposis syndrome
20	Colon	PI	large bowel with intussusception due to leading-point mass
Class 12: Liver Tumor			
1	Liver Tumor	NP	liver tumor
2	Liver Tumor	NP	hepatic malignancy
3	Liver Tumor	NP	liver lesion
4	Liver Tumor	NP	hepatocellular carcinoma
5	Liver Tumor	CD	focal hepatic lesion with arterial enhancement and washout on contrast CT
6	Liver Tumor	CD	liver mass showing heterogeneous density due to necrosis or hemorrhage
7	Liver Tumor	CD	hepatic tumor with capsular retraction or satellite nodules

#	Class	Reg.	Prompt Variant
8	Liver Tumor	CD	liver lesion with peripheral nodular enhancement pattern consistent with hemangioma
9	Liver Tumor	CD	hepatic mass causing local parenchymal compression or biliary dilation
10	Liver Tumor	CD	liver tumor at the hepatic hilum obstructing the common bile duct
11	Liver Tumor	CD	hepatic lesion with central scar in fibrolamellar carcinoma
12	Liver Tumor	CD	liver metastasis with target sign on portal venous phase CT
13	Liver Tumor	PI	hepatocellular carcinoma with portal vein tumor thrombus
14	Liver Tumor	PI	liver tumor invading the inferior vena cava or hepatic veins
15	Liver Tumor	PI	hepatic malignancy with bilobar multifocal involvement
16	Liver Tumor	PI	liver tumor causing hepatic capsular bulge and adjacent organ displacement
17	Liver Tumor	PI	large hepatic mass with exophytic growth beyond the liver capsule
18	Liver Tumor	PI	hepatic lesion post-TACE with residual viable tumor at rim
19	Liver Tumor	PI	liver tumor with diffuse infiltrative pattern replacing normal parenchyma
20	Liver Tumor	PI	hepatic malignancy with spontaneous hemorrhage and hemoperitoneum
Class 13: Pancreas Tumor			
1	Pancreas Tumor	NP	pancreas tumor
2	Pancreas Tumor	NP	pancreatic adenocarcinoma
3	Pancreas Tumor	NP	pancreatic mass
4	Pancreas Tumor	NP	periampullary tumor
5	Pancreas Tumor	CD	hypovascular pancreatic mass on contrast-enhanced CT
6	Pancreas Tumor	CD	pancreatic ductal adenocarcinoma causing upstream main duct dilation
7	Pancreas Tumor	CD	pancreatic head mass obstructing the common bile duct and pancreatic duct
8	Pancreas Tumor	CD	solid hypoechoic pancreatic lesion with surrounding desmoplastic stroma
9	Pancreas Tumor	CD	pancreatic tumor encasing the superior mesenteric artery or portal vein
10	Pancreas Tumor	CD	pancreatic carcinoma with peripancreatic fat stranding and lymphadenopathy
11	Pancreas Tumor	CD	pancreatic tail mass associated with distal atrophy
12	Pancreas Tumor	CD	cystic pancreatic lesion with solid component suggestive of malignancy
13	Pancreas Tumor	PI	unresectable pancreatic tumor encasing the celiac axis
14	Pancreas Tumor	PI	pancreatic carcinoma with liver metastases and peritoneal seeding
15	Pancreas Tumor	PI	pancreatic head mass with double-duct sign and gastric outlet obstruction
16	Pancreas Tumor	PI	locally advanced pancreatic tumor abutting the superior mesenteric vein
17	Pancreas Tumor	PI	pancreatic mass with vascular invasion precluding surgical resection
18	Pancreas Tumor	PI	post-chemotherapy pancreatic tumor with partial response on CT
19	Pancreas Tumor	PI	pancreatic neuroendocrine tumor with hypervascular blush on arterial phase
20	Pancreas Tumor	PI	pancreatic tumor causing segmental splenic vein thrombosis
Class 14: Hepatic Vessel Tumor			
1	Hepatic Vessel	NP	hepatic vessels
2	Hepatic Vessel	NP	portal vein
3	Hepatic Vessel	NP	hepatic veins
4	Hepatic Vessel	NP	intrahepatic vasculature
5	Hepatic Vessel	CD	portal and hepatic venous vasculature within the liver parenchyma
6	Hepatic Vessel	CD	intrahepatic branching vessels distinguishable on portal venous phase CT
7	Hepatic Vessel	CD	hepatic vein tributaries draining into the inferior vena cava
8	Hepatic Vessel	CD	portal vein bifurcating into right and left branches at the hepatic hilum
9	Hepatic Vessel	CD	fine tubular vascular structures within hepatic parenchyma on CT
10	Hepatic Vessel	CD	hepatic vasculature with arborizing branching pattern on 3D reconstruction

#	Class	Reg.	Prompt Variant
11	Hepatic Vessel	CD	intrahepatic vessels with bright enhancement on arterial or portal venous phase
12	Hepatic Vessel	CD	portal vein and hepatic vein distinguishable by timing of contrast enhancement
13	Hepatic Vessel	PI	hepatic vessels compressed or displaced by adjacent focal hepatic tumor
14	Hepatic Vessel	PI	portal vein with tumor thrombus due to hepatocellular carcinoma invasion
15	Hepatic Vessel	PI	hepatic vein occlusion in Budd-Chiari syndrome
16	Hepatic Vessel	PI	intrahepatic vasculature distorted by cirrhotic nodular regeneration
17	Hepatic Vessel	PI	hepatic vessels with cavernous transformation of the portal vein
18	Hepatic Vessel	PI	intrahepatic vascular shunts due to hereditary hemorrhagic telangiectasia
19	Hepatic Vessel	PI	hepatic vessels with arterioportal fistula causing early portal enhancement
20	Hepatic Vessel	PI	fine peripheral hepatic vessel branches effaced by diffuse tumor infiltration

Class 15: Colon Cancer

1	Colon Cancer	NP	colon cancer
2	Colon Cancer	NP	colorectal adenocarcinoma
3	Colon Cancer	NP	colonic malignancy
4	Colon Cancer	NP	bowel tumor
5	Colon Cancer	CD	annular colonic carcinoma with shouldering and luminal narrowing on CT
6	Colon Cancer	CD	colorectal adenocarcinoma with circumferential wall thickening
7	Colon Cancer	CD	colon cancer with pericolonic fat invasion and regional lymphadenopathy
8	Colon Cancer	CD	colonic tumor with apple-core appearance on CT colonography
9	Colon Cancer	CD	colorectal carcinoma at the hepatic or splenic flexure causing obstructive symptoms
10	Colon Cancer	CD	sigmoid colon tumor with invasion of the bladder or uterus
11	Colon Cancer	CD	right-sided colon cancer arising in the cecum or ascending colon
12	Colon Cancer	CD	colorectal cancer with synchronous hepatic metastases
13	Colon Cancer	PI	Stage III colon cancer with pericolonic fat invasion and N2 lymph node involvement
14	Colon Cancer	PI	Stage IV colorectal carcinoma with peritoneal carcinomatosis
15	Colon Cancer	PI	locally advanced colon cancer adherent to the small bowel or abdominal wall
16	Colon Cancer	PI	colon tumor causing complete large bowel obstruction
17	Colon Cancer	PI	colorectal carcinoma with fistulous tract to adjacent organ
18	Colon Cancer	PI	post-radiation colon cancer with perirectal fibrosis and bowel wall changes
19	Colon Cancer	PI	mucinous colonic adenocarcinoma with low-attenuation tumor matrix
20	Colon Cancer	PI	colon cancer with signet-ring cell histology causing linitis plastica pattern

Class 16: Colorectal Tumor

1	Colorectal Tumor	NP	colorectal tumor
2	Colorectal Tumor	NP	rectal carcinoma
3	Colorectal Tumor	NP	rectosigmoid tumor
4	Colorectal Tumor	NP	pelvic colorectal mass
5	Colorectal Tumor	CD	rectal adenocarcinoma with transmural extension on MRI-correlated CT
6	Colorectal Tumor	CD	colorectal tumor in the mid or lower rectum with mesorectal involvement
7	Colorectal Tumor	CD	rectosigmoid mass with perirectal fat stranding and pelvic lymphadenopathy
8	Colorectal Tumor	CD	colorectal carcinoma assessed for circumferential resection margin on CT

#	Class	Reg.	Prompt Variant
9	Colorectal Tumor	CD	rectal tumor with invasion of the levator ani or adjacent pelvic organs
10	Colorectal Tumor	CD	colorectal mass with satellite deposits in the mesorectum
11	Colorectal Tumor	CD	rectal carcinoma at or below the peritoneal reflection
12	Colorectal Tumor	CD	colorectal tumor identified by rectal wall thickening and luminal narrowing
13	Colorectal Tumor	PI	Stage III colorectal tumor with pelvic side-wall lymph node involvement
14	Colorectal Tumor	PI	Stage IV colorectal carcinoma with liver metastases and peritoneal deposits
15	Colorectal Tumor	PI	locally recurrent colorectal cancer in the presacral space post-resection
16	Colorectal Tumor	PI	colorectal tumor with bladder or uterine invasion causing fistula
17	Colorectal Tumor	PI	rectal carcinoma with complete response post-chemoradiation on restaging CT
18	Colorectal Tumor	PI	colorectal tumor with irregular infiltrating borders into perirectal fat
19	Colorectal Tumor	PI	rectosigmoid mass causing hydronephrosis by ureteric compression
20	Colorectal Tumor	PI	colorectal carcinoma with diffuse pelvic infiltration at Stage IV

Notes. Register codes: NP = short noun phrase; CD = clinical description; PI = pathology-inclusive phrase. Shading: organ classes (1–11); tumor classes (12–16). All prompts were reviewed and confirmed by a board-certified abdominal radiologist (12 years of experience). During training a single variant is sampled uniformly at random per class per iteration; the validated set (this table) was used for all main experiments. The full prompt set will be released alongside code at <https://github.com/llmresearch678/Triprompt>.